ELSEVIER

Journal of Membrane Science (1995) 181–211

journal of MEMBRANE SCIENCE

# Author Index Volumes 76–100

## A

Abasaeed, A.E. and Elnashaie, S.S.E.H.
Heterogeneous modelling of packed bed fermentor with permselective membranes 76 (1993) 165
Abasaeed, A.E. and Elnashaie, S.S.E.H.
A novel configuration for packed bed membrane fermenters for maximizing ethanol productivity and concentration 82 (1993) 75
Abdalla, B.K. and Elnashaie, S.S.E.H.
A membrane reactor for the production of styrene from ethylbenzene 85 (1993) 229
Abidine, N. see Brinkert, L. 77 (1993) 123
Acharya, D.R. see Li, K. 80 (1993) 147
Agarwal, G.P. see Balakrishnan, M. 85 (1993) 111
Agarwal, G.P. see Tandon, A. 97 (1994) 83
Ahmadi, S., Batchelor, B. and Koseoglu, S.S.
The diafiltration method for the study of the binding of macromolecules to heavy metals 89 (1994) 257
Aihara, M. see Higashijima, T. 93 (1994) 165
Aihara, M. see Ohya, H. 97 (1994) 91
Aimar, P. see Gekas, V. 80 (1993) 73
Aimar, P. see Field, R.W. 80 (1993) 107
Aimar, P. see Lentsch, S. 80 (1993) 221
Aimar, P. see Causserand, C. 88 (1994) 211
Aimar, P. see Zydney, A.L. 91 (1994) 293
Akabori, S. see Habata, Y. 85 (1993) 175
Akay, G. and Wakeman, R.J.
Mechanisms of permeate flux decay, solute rejection and concentration polarisation in crossflow filtration of a double chain ionic surfactant dispersion 88 (1994) 177
Akay, G. see Wakeman, R.J. 91 (1994) 145
Akiyama, S. see Li, Z.Y. 78 (1993) 247
Akkerhuis, J.J. see Feron, P. 80 (1993) 157
Aksnes, E. see Eriksen, O.I. 85 (1993) 89, 99
Alami-Younssi, S., Larbot, A., Persin, M., Sarrazin, J. and Cot, L.
Gamma alumina nanofiltration membrane Application to the rejection of metallic cations 91 (1994) 87
Alami-Younssi, S. see Larbot, A. 97 (1994) 167
Ali, J.K., Newson, E.J. and Rippin, D.W.T.
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171
Alvarez, J.R. see Audinos, R. 76 (1993) 147
Alvarez, R. see Audinos, R. 76 (1993) 147
Amiel, C. see Millesime, L. 89 (1994) 223
Anderson, M.A. see Peterson, R.A. 94 (1994) 103
Anderson, M.R. see Reiss, H. 88 (1994) 145
Andres, J.L. see Audinos, R. 76 (1993) 147
Anselme, C. see Crozes, G. 84 (1993) 61
Anzai, H. see Li, Z.Y. 78 (1993) 247
Aoki, T., Tomizawa, S. and Oikawa, E.
Enantioselective permeation through poly{γ-[3-(pentamethyldisiloxanyl)propyl]-L-glutamate} membranes 99 (1995) 117
Aptel, P. see Brinkert, L. 77 (1993) 123; 92 (1994) 131
Arai, H. see Chai, M. 96 (1994) 205; 97 (1994) 199
Araki, K. see Ino, M. 89 (1994) 101
Aranda, P., Chen, W.-J. and Martin, C.R.
Water transport across polystyrenesulfonate/alumina composite membranes 99 (1995) 185
Arendt, M. see Le Roux, J.D. 94 (1994) 143
Arendt, M.F. see Le Roux, J.D. 90 (1994) 37
Arevalo, A.R. see Fritzsche, A.K. 81 (1993) 109
Arnot, T. see Field, R. 86 (1993) 291
Arora, N. and Davis, R.H.
Yeast cake layers as secondary membranes in dead-end microfiltration of bovine serum albumin 92 (1994) 247
Arribas, J.I. see Prádanos, P. 99 (1995) 1
Arroyo, G. and Fonade, C.
Use of intermittent jets to enhance flux in crossflow filtration 80 (1993) 117
Ash, R., Barrer, R.M., Vernon Edge, A., Foley, T. and Murray, C.L.
Thermo-osmosis of sorbable gases in porous media. Part III. Single gases 76 (1993) 1
Ashley, C.S. see Brinker, C.J. 94 (1994) 85
Assunção, R.M.N.d. see Filho, G.R. 82 (1993) 43
Athayde, A.L., Baker, R.W. and Nguyen, P.
Metal composite membranes for hydrogen separation 94 (1994) 299
Aubeck, R. see Eppelsheim, C. 100 (1995) 131
Aubert, M.-C., Elluard, M.-P. and Barnier, H.

0376-7388/95/$09.50 © 1995 Elsevier Science B.V. All rights reserved
SSDI 0376-7388(95)9999-Z

Shear stress induced erosion of filtration cake studied by a flat rotating disk method. Determination of the critical shear stress of erosion 84 (1993) 229
Auclair, B. see Ktari, T. 84 (1993) 53
Audinos, R., Nassr-Allah, A., Alvarez, J.R., Andres, J.L. and Alvarez, R.
Electrodialysis in the separation of dilute aqueous solutions of sulfuric and nitric acids 76 (1993) 147
Auvil, S.R. see Srinivasan, R. 86 (1993) 67
Awaka, T. see Kanamori, T. 88 (1994) 159
Aydemir, A. see Eroğlu, I. 86 (1993) 171

# B

Baç, N. see Süer, M.G. 91 (1994) 77
Bagnell, L., Cavell, K., Hodges, A.M., Mau, A.W.-H. and Seen, A.J.
The use of catalytically active pervaporation membranes in esterification reactions to simultaneously increase product yield, membrane permselectivity and flux 85 (1993) 291
Baker, R.W. see Wijmans, J.G. 79 (1993) 101
Baker, R.W. see Athayde, A.L. 94 (1994) 299
Balakrishnan, M., Agarwal, G.P. and Cooney, C.L.
Study of protein transmission through ultrafiltration membranes 85 (1993) 111
Bálint, T., Nagy, E. and Kraxner, M.
Study of interaction between butyl alcohols and cellulose acetate polymers with reverse osmosis, high pressure liquid chromatography and pervaporation methods 78 (1993) 101
Bandini, S. see Sarti, G.C. 80 (1993) 21
Bandini, S. see Gostoli, C. 98 (1995) 1
Banerjee, T. and Glenn Lipscomb, G.
Mixed gas sorption in elastic solids 96 (1994) 241
Barbari, T.A. see Li, R.H. 88 (1994) 115
Bard, C. see Pouliot, Y. 80 (1993) 257
Bargeman, D. see Kim, K.J. 87 (1994) 35
Bargeman, D. see Te Hennepe, H.J.C. 89 (1994) 185
Bargeman, D. see Broek, A.P. 99 (1995) 217
Barnier, H. see Aubert, M.-C. 84 (1993) 229
Barragán, V.M., Ruiz-Bauzá, C. and Mengual, J.I.
On current dependence of the electro-osmotic permeability in ion-exchange membranes 95 (1994) 1
Barrer, R.M. see Ash, R. 76 (1993) 1
Bashir, I., Jerabek, M., Martin, T. and Reuss, M.
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229
Basile, A. see Drioli, E. 80 (1993) 309; 81 (1993) 43
Batchelor, B. see Ahmadi, S. 89 (1994) 257
Bates, R. see Chung, K.Y. 81 (1993) 139
Bauer, M. see Nolte, R. 83 (1993) 211
Baussart, H. see Lamer, T. 90 (1994) 251
Beaubien, A. see Chang, J. 80 (1993) 233
Becker, Y.L., Dixon, A.G., Moser, W.R. and Ma, Y.H.
Modelling of ethylbenzene dehydrogenation in a catalytic membrane reactor 77 (1993) 233
Behling, R.-D. see Jia, M.-D. 82 (1993) 15
Belfort, G., Pimbley, J.M., Greiner, A. and Chung, K.Y.
Diagnosis of membrane fouling using a rotating annular filter. 1. Cell culture media 77 (1993) 1
Belfort, G., Mikulasek, P., Pimbley, J.M. and Chung, K.Y.
Diagnosis of membrane fouling using a rotating annular filter. 2. Dilute particle suspensions of known particle size 77 (1993) 23
Belfort, G. see Winzeler, H.B. 80 (1993) 35
Belfort, G. see Brewster, M.E. 81 (1993) 127
Belfort, G. see Chung, K.Y. 81 (1993) 139, 151
Belfort, G. see Zydney, A.L. 91 (1994) 293
Belfort, G., Davis, R.H. and Zydney, A.L.
The behavior of suspensions and macromolecular solutions in crossflow microfiltration 96 (1994) 1
Belfort, G. see Dolecek, P. 99 (1995) 241
Bell, G. see Vaidya, A.M. 97 (1994) 13
Bell, T.W. see Van Straaten-Nijenhuis, W.F. 82 (1993) 277
Bellhouse, B.J. see Millward, H.R. 100 (1995) 121
Bellucci, F. see Mensitieri, G. 89 (1994) 131
Ben Aim, R. see Kim, K.J. 87 (1994) 35
Benavente, J. and Jonsson, G.
Transport of $Na_2SO_4$ and $MgSO_4$ solutions through a composite membrane 80 (1993) 275
Benavente, J., Hernández, A. and Jonsson, G.
Proper and adsorbed charges on the surfaces of the polysulfonic support of a composite membrane from electrokinetic phenomena 80 (1993) 285
Bencivenga, U. see Mita, D.G. 78 (1993) 69
Benkahla, Y.K., Ould-Dris, A., Jaffrin, M.Y. and Si-Hassen, D.
Cake growth mechanism in cross-flow microfiltration of mineral suspensions 98 (1995) 107
Berezina, N., Gnusin, N., Dyomina, O. and Timofeyev, S.
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207
Bernard, M. see Chiapello, J.-M. 80 (1993) 251
Berner, B. see Dinh, S.M. 89 (1994) 245
Bernstein, L.A. and Lund, C.R.F.
Membrane reactors for catalytic series and series–parallel reactions 77 (1993) 155
Bertram, C.D., Hoogland, M.R., Li, H., Odell, R.A. and Fane, A.G.
Flux enhancement in crossflow microfiltration using a collapsible-tube pulsation generator 84 (1993) 279
Beryozkin, V.V. see Mchedlishvili, B.V. 79 (1993) 285
Bhattacharjee, C. and Bhattacharya, P.K.
Flux decline analysis in ultrafiltration of kraft black liquor 82 (1993) 1
Bhattacharya, P.K. see Bhattacharjee, C. 82 (1993) 1
Bhattacharya, P.K. see Ganguly, S. 97 (1994) 185
Bhattacharyya, D. see Butterfield, D.A. 91 (1994) 47
Bhattacharyya, D. see Han, M.-J. 98 (1995) 191
Bhattacharyya, D. see Mattingly, C.D. 98 (1995) 275

Bhide, B.D. and Stern, S.A.
Membrane processes for the removal of acid gases from natural gas. I. Process configurations and optimization of operating conditions 81 (1993) 209
Bhide, B.D. and Stern, S.A.
Membrane processes for the removal of acid gases from natural gas. II. Effects of operating conditions, economic parameters, and membrane properties 81 (1993) 239
Bhown, A. and Cussler, E.L.
Poly(4-vinylpyridine-co-styrene) membranes do not show facilitated transport 77 (1993) 59
Bigelow, S.L. and Gemberling, A.
Collodion membranes 100 (1995) 57
Bikson, B., Nelson, J.K. and Muruganandam, N.
Composite cellulose acetate/poly(methyl methacrylate) blend gas separation membranes 94 (1994) 313
Blanc, P. see Randon, J. 98 (1995) 119
Blanpain, P., Hermia, J. and Lenoël, M.
Mechanisms governing permeate flux and protein rejection in the microfiltration of beer with a Cyclopore membrane 84 (1993) 37
Bleha, M. see Denisov, G.A. 98 (1995) 13
Blicke, C., Peinemann, K.-V. and Nunes, S.P.
Ultrafiltration membranes from poly(ether sulfonamide)/poly(ether imide) blends 79 (1993) 83
Böddeker, K.W.
Commentary: Tracing Membrane Science 100 (1995) 65
Bode, E., Busse, M. and Ruthenberg, K.
Considerations on interface resistances in the process of permeation of dense membranes 77 (1993) 69
Bodzek, M. and Konieczny, K.
Ultrafiltration membranes made of vinyl chloride–vinyl acetate copolymer 76 (1993) 269
Boersma, A. see Janssen, L.J.J.M. 79 (1993) 11
Bonfanti, C. see Sisto, R. 95 (1994) 135
Boom, R.M., Van den Boomgaard, Th. and Smolders, C.A.
Mass transfer and thermodynamics during immersion precipitation for a two-polymer system Evaluation with the system PES–PVP–NMP–water 90 (1994) 231
Boomgaard, T.v.d. see Wienk, I.M. 78 (1993) 93
Borthakur, S. see Ghosh, A.C. 96 (1994) 183
Bos, A. see Wessling, M. 86 (1993) 193
Bos, M. see Wessling, M. 86 (1993) 193
Boswerger, W.B.F. see Te Hennepe, H.J.C. 89 (1994) 185
Both, P. see Brink, L.E.S. 76 (1993) 281
Bottino, A. see Persson, K.M. 76 (1993) 61
Bottino, A., Capannelli, G., Grosso, A., Monticelli, O., Cavalleri, O., Rolandi, R. and Soria, R.
Surface characterization of ceramic membranes by atomic force microscopy 95 (1994) 289
Bouchard, C.R., Carreau, P.J., Matsuura, T. and Sourirajan, S.
Modeling of ultrafiltration: predictions of concentration polarization effects 97 (1994) 215
Bouchet, F. see Hlavacek, M. 82 (1993) 285
Bowen, W.R. and Gan, Q.
Microfiltration of protein solutions at thin film composite membranes 80 (1993) 165
Boyadzhiev, L. see Lazarova, Z. 78 (1993) 239
Boyadzhiev, L. and Dimitrov, K.
Recovery of silver from nitrate solution by means of rotating film pertraction 86 (1993) 137
Brewster, M.E., Chung, K.-Y. and Belfort, G.
Dean vortices with wall flux in a curved channel membrane system 1. A new approach to membrane module design 81 (1993) 127
Bribes, J.L. see Tugas, I. 78 (1993) 25
Brink, L.E.S., Elbers, S.J.G., Robbertsen, T. and Both, P.
The anti-fouling action of polymers preadsorbed on ultrafiltration and microfiltration membranes 76 (1993) 281
Brinker, C.J., Ward, T.L., Sehgal, R., Raman, N.K., Hietala, S.L., Smith, D.M., Hua, D.-W. and Headley, T.J.
"Ultramicroporous" silica-based supported inorganic membranes 77 (1993) 165
Brinker, C.J., Sehgal, R., Hietala, S.L., Deshpande, R., Smith, D.M., Loy, D. and Ashley, C.S.
Sol-gel strategies for controlled porosity inorganic materials 94 (1994) 85
Brinkert, L., Abidine, N. and Aptel, P.
On the relation between compaction and mechanical properties for ultrafiltration hollow fibers 77 (1993) 123
Brinkert, L., Paris, P., Renner, M., Espenan, J.M. and Aptel, P.
Pressure drops in radial flow membrane modules for ultrafiltration hollow fibers 92 (1994) 131
Brinkman, H.W. see Cao, G.Z. 83 (1993) 221
Brites, A.M. and Pinho, M.N.d.
A new approach to the evaluation of the effects of protein adsorption onto a polysulfone membrane 78 (1993) 265
Britten, M. see Pouliot, M. 95 (1994) 125
Britten, M. see Gourley, L. 97 (1994) 283
Broek, A.P. see Kim, K.J. 87 (1994) 35
Broek, A.P., Teunis, H.A., Bargeman, D., Sprengers, E.D., Strathmann, H. and Smolders, C.A.
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217
Bromberg, L. see Kedem, O. 78 (1993) 255
Broom, G.P., Squires, R.C., Simpson, M.P.J. and Martin, I.
The treatment of heavy metal effluents by crossflow microfiltration 87 (1994) 219
Brouckaert, C.J. see Swart, A.F. 87 (1994) 57
Brož, Z. see Vašák, F. 82 (1993) 265
Brož, Z. see Nguyen, X.Q. 91 (1994) 65
Brož, Z. see Uchytil, P. 97 (1994) 145
Brumlik, C.J. see Parthasarathy, A. 94 (1994) 249
Bryjak, M. see Wieczorek, P. 78 (1993) 83
Bryjak, M., Kozłowski, J., Wieczorek, P. and Kafarski, P.
Enantioselective transport of amino acid through supported chiral liquid membranes 85 (1993) 221
Bryk, M.T. see Tsapiuk, E.A. 79 (1993) 227
Buckley, C.A. see Swart, A.F. 87 (1994) 57
Buettner, G.R. see Oppenheim, S.F. 96 (1994) 289
Burban, P.M. see Srinivasan, R. 86 (1993) 67
Burford, R.P. see Mansouri, J. 87 (1994) 23
Burggraaf, A.J. see Lin, Y.S. 79 (1993) 65
Burggraaf, A.J. see Cao, G.Z. 83 (1993) 221

Burggraaf, A.J. see De Lange, R.S.A. 99 (1995) 57
Busse, M. see Bode, E. 77 (1993) 69
Butterfield, D.A., Lee, J., Ganapathi, S. and Bhattacharyya, D.
Biofunctional membranes Part IV. Active-site structure and stability of an immobilized enzyme, papain, on modified polysulfone membranes studied by electron paramagnetic resonance and kinetics 91 (1994) 47
Buxbaum, R.E. and Marker, T.L.
Hydrogen transport through non-porous membranes of palladium-coated niobium, tantalum and vanadium 85 (1993) 29

# C

Cabasso, I. see Le Roux, J.D. 90 (1994) 37; 94 (1994) 143
Campbell, M.J., Walter, R.P., McLoughlin, R. and Knowles, C.J.
Effect of temperature on protein conformation and activity during ultrafiltration 78 (1993) 35
Canales, R. see White, D.A. 87 (1994) 297
Canciglia, P. see Mita, D.G. 78 (1993) 69
Cao, G.Z., Meijerink, J., Brinkman, H.W. and Burggraaf, A.J.
Permporometry study on the size distribution of active pores in porous ceramic membranes 83 (1993) 221
Capannelli, G. see Persson, K.M. 76 (1993) 61
Capannelli, G. see Bottino, A. 95 (1994) 289
Carlès, M. see Sarrade, S. 97 (1994) 155
Carreau, P.J. see Bouchard, C.R. 97 (1994) 215
Carvalho, J.M.R. see Reis, M.T.A. 84 (1993) 201
Casas, J. see Dozol, J.F. 82 (1993) 237
Castilla, J. see Horno, J. 90 (1994) 173
Castro, R.P., Cohen, Y. and Monbouquette, H.G.
The permeability behavior of polyvinylpyrrolidone-modified porous silica membranes 84 (1993) 151
Causserand, C., Nyström, M. and Aimar, P.
Study of streaming potentials of clean and fouled ultrafiltration membranes 88 (1994) 211
Cavalleri, O. see Bottino, A. 95 (1994) 289
Cavell, K. see Bagnell, L. 85 (1993) 291
Cavell, K.J. see Seen, A.J. 87 (1994) 149
Chai, G.-Y. and Krantz, W.B.
Formation and characterization of polyamide membranes via interfacial polymerization 93 (1994) 175
Chai, M., Machida, M., Eguchi, K. and Arai, H.
Preparation and characterization of sol–gel derived microporous membranes with high thermal stability 96 (1994) 205
Chai, M., Yamashita, Y., Machida, M., Eguchi, K. and Arai, H.
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199
Chakma, A. see Zaman, J. 92 (1994) 1
Chakma, A. see Saha, S. 98 (1995) 157
Chakraborty, R. and Datta, S.
Transport of $Te^{4+}$ through liquid surfactant membrane using D2EHPA as the carrier 96 (1994) 233
Chakravarti, S. see Filippov, A. 89 (1994) 199
Chan, C.C. and Wang, S.S.
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219
Chan, K. see Mok, S. 100 (1995) 183
Chang, C.-H., Gopalan, R. and Lin, Y.S.
A comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes 91 (1994) 27
Chang, D.-J., Hsu, F.-C. and Hwang, S.-J.
Steady-state permeate flux of cross-flow microfiltration 98 (1995) 97
Chang, D.S.-W. see Van Zanten, J.H. 99 (1995) 49
Chang, I.-S., Choo, K.-H., Lee, C.-H., Pek, U.-H., Koh, U.-C., Kim, S.-W. and Koh, J.-H.
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131
Chang, J., Manem, J. and Beaubien, A.
Membrane bioprocesses for the denitrification of drinking water supplies 80 (1993) 233
Chapiró, A. see Rouilly, M.V. 81 (1993) 89
Chapotot, A., Pourcelly, G. and Gavach, C.
Transport competition between monovalent and divalent cations through cation-exchange membranes. Exchange isotherms and kinetic concepts 96 (1994) 167
Charati, S.G. see Stern, S.A. 76 (1993) 89
Charrier, J.Ph. see Jaffrin, M.Y. 97 (1994) 71
Chaufer, B. see Millesime, L. 89 (1994) 223
Chen, B. see Jia, M.-D. 90 (1994) 1
Chen, G., Griesser, H.J. and Mau, A.W.H.
Gas permeability of poly[1-(trimethylsilyl)-1-propyne] membranes modified by hexafluorobutyl methacrylate 82 (1993) 99
Chen, H. see Rezac, M.E. 90 (1994) 213
Chen, H., Jiang, G. and Xu, R.
An approximate solution for countercurrent gas permeation separating multicomponent mixtures 95 (1994) 11
Chen, J. see Lin, X. 90 (1994) 81
Chen, J.-L. see Tsai, S.-W. 100 (1995) 87
Chen, L.-W. see Young, T.-H. 83 (1993) 153
Chen, V. see Kim, K.-J. 80 (1993) 241; 88 (1994) 93
Chen, W.-J. and Martin, C.R.
Gas-transport properties of sulfonated polystyrenes 95 (1994) 51
Chen, W.-J. see Aranda, P. 99 (1995) 185
Cheng, Y.-L. see Ly, Y. 77 (1993) 99
Cherif, A.T., Elmidaoui, A. and Gavach, C.
Separation of $Ag^+$, $Zn^{2+}$ and $Cu^{2+}$ ions by electrodialysis with a monovalent cation specific membrane and EDTA 76 (1993) 39
Chiapello, J.-M. and Bernard, M.
Improved spacer design and cost reduction in an electrodialysis system 80 (1993) 251
Chiemchaisri, C. and Yamamoto, K.
Performance of membrane separation bioreactor at various temperatures for domestic wastewater treatment 87 (1994) 119

Chilcott, T.C., Coster, H.G.L. and George, E.P.
AC impedance of the bipolar membrane at low and high frequencies 100 (1995) 77
Choi, C.K. see Park, J.Y. 97 (1994) 263
Choi, H.S. see Ohya, H. 90 (1994) 91
Choo, K.-H. see Chang, I.-S. 90 (1994) 131
Christian, S.D. see Tabatabai, A. 100 (1995) 193
Chua, I. see Tai, M.S.L. 87 (1994) 99
Chung, K.Y. see Belfort, G. 77 (1993) 1, 23
Chung, K.-Y. see Brewster, M.E. 81 (1993) 127
Chung, K.Y., Bates, R. and Belfort, G.
Dean vortices with wall flux in a curved channel membrane system 4. Effect of vortices on permeation fluxes of suspensions in microporous membrane 81 (1993) 139
Chung, K.Y., Edelstein, W.A. and Belfort, G.
Dean vortices with wall flux in a curved channel membrane system. 6. Two dimensional magnetic resonance imaging of the velocity field in a curved impermeable slit 81 (1993) 151
Chung, T.-S., Ronald Kafchinski, E. and Vora, R.
Development of a defect-free 6FDA-durene asymmetric hollow fiber and its composite hollow fibers 88 (1994) 21
Ćirić, G.M. see Tekić, M.N. 96 (1994) 213
Clark, M.M. see Jucker, C. 97 (1994) 37
Clark, N.A. see Wan, C. 84 (1993) 191
Clark, N.A. see Collins, J.P. 99 (1995) 249
Clément, R. see Favre, E. 92 (1994) 169
Cohen, Y. see Castro, R.P. 84 (1993) 151
Cohen-Stuart, M.A. see Schroën, C.G.P.H. 80 (1993) 265
Cole, K.D. see Ko, M.K. 93 (1994) 21
Collins, G.E. see Parthasarathy, A. 94 (1994) 249
Collins, J.P., Douglas Way, J. and Kraisuwansarn, N.
A mathematical model of a catalytic membrane reactor for the decomposition of $NH_3$ 77 (1993) 265
Collins, J.P. and Douglas Way, J.
Catalytic decomposition of ammonia in a membrane reactor 96 (1994) 259
Collins, J.P., Noble, R.D., Park, C.H. and Clark, N.A.
Continued studies of an electroconvective liquid membrane for gas separation 99 (1995) 249
Comfort, A.R. see Dinh, S.M. 89 (1994) 245
Condemine, A. see Robinson, C.W. 80 (1993) 209
Cooney, C.L. see Balakrishnan, M. 85 (1993) 111
Cornelissen, A.E.
Heat effect in gas permeation, with special reference to spiral-wound modules 76 (1993) 185
Costello, L.M., Walker, D.R.B. and Koros, W.J.
Analysis of a thermally stable polypyrrolone for high temperature membrane-based gas separations 90 (1994) 117
Costello, M. see Yao, S. 99 (1995) 207
Costello, M.J., Fane, A.G., Hogan, P.A. and Schofield, R.W.
The effect of shell side hydrodynamics on the performance of axial flow hollow fibre modules 80 (1993) 1
Coster, H.G.L. see Zha, F.F. 93 (1994) 255
Coster, H.G.L. see Chilcott, T.C. 100 (1995) 77
Cot, L. see Julbe, A. 77 (1993) 137
Cot, L. see Vaija, P. 83 (1993) 173
Cot, L. see Etienne, J. 86 (1993) 95
Cot, L. see Alami-Younssi, S. 91 (1994) 87
Cot, L. see Elmaleh, S. 97 (1994) 127
Cot, L. see Larbot, A. 97 (1994) 167
Cot, L. see Lacan, P. 100 (1995) 99
Crozes, G., Anselme, C. and Mallevialle, J.
Effect of adsorption of organic matter on fouling of ultrafiltration membranes 84 (1993) 61
Cui, Z.F. and Wright, K.I.T.
Gas–liquid two-phase cross-flow ultrafiltration of BSA and dextran solutions 90 (1994) 183
Cussler, E.L. see Bhown, A. 77 (1993) 59
Cussler, E.L. see Wickramasinghe, S.R. 84 (1993) 1
Cussler, E.L. see Wang, K.L. 85 (1993) 265

# D

Da Costa, A.R., Fane, A.G. and Wiley, D.E.
Ultrafiltration of whey protein solutions in spacer-filled flat channels 76 (1993) 245
Da Costa, A.R., Fane, A.G. and Wiley, D.E.
Spacer characterization and pressure drop modelling in spacer-filled channels for ultrafiltration 87 (1994) 79
Dadfarnia, S., Shamsipur, M., Tamaddon, F. and Sharghi, H.
Extraction and membrane transport of metal ions by some synthetic 9,10-anthraquinone and 9-anthrone derivatives. A selective system for calcium transport 78 (1993) 115
Dahl, I.M. see Eriksen, O.I. 85 (1993) 89, 99
Daiminger, U., Nitsch, W., Plucinski, P. and Hoffmann, S.
Novel techniques for oil/water separation 99 (1995) 197
Dal-Cin, M. see Tam, C.M. 78 (1993) 123
Dalrymple, D.C. see Ho, W.S. 91 (1994) 13
Darcovich, K. see Pellerin, E. 100 (1995) 139
Das, S.K. see Jain, A.K. 78 (1993) 53
Datta, S. see Chakraborty, R. 96 (1994) 233
Daufin, G. see Gésan, G. 80 (1993) 131
Daufin, G. see Le Berre, O. 88 (1994) 263
Davis, R.H. see Arora, N. 92 (1994) 247
Davis, R.H. see Belfort, G. 96 (1994) 1
De Abajo, J. see Torres, M.R. 81 (1993) 31
Debeaufort, F., Voilley, A. and Meares, P.
Water vapor permeability and diffusivity through methylcellulose edible films 91 (1994) 125
Decloux, M. see Dornier, M. 98 (1995) 263
Defossez, M. see Ding, L.H. 84 (1993) 293
Dejmek, P. see Persson, K.M. 76 (1993) 51
De la Campa, J.G. see Torres, M.R. 81 (1993) 31
De Lange, R.S.A., Hekkink, J.H.A., Keizer, K. and Burggraaf, A.J.
Formation and characterization of supported microporous ceramic membranes prepared by sol-gel modification techniques 99 (1995) 57

Del Nobile, M.A. see Mensitieri, G. 89 (1994) 131
Denisov, G.A., Kaluta, V.K., Nikolaev, E.V., Tishchenko, G.A. and Shataeva, L.K.
Modeling of coupled transport of ions and zwitterions across porous ion exchange membranes 79 (1993) 211
Denisov, G.A.
Theory of concentration polarization in cross-flow ultrafiltration: gel-layer model and osmotic-pressure model 91 (1994) 173
Denisov, G.A., Tishchenko, G.A., Bleha, M. and Shataeva, L.K.
Theoretical analysis of neutralization dialysis in the three-compartment membrane cell 98 (1995) 13
De Pinho, M.N. see Rosa, M.J. 89 (1994) 235
Desgrandchamps, G. see Duval, J.-M. 80 (1993) 189
Deshpande, R. see Brinker, C.J. 94 (1994) 85
Dickson, M.R. see Simons, R. 76 (1993) 73; 78 (1993) 63
Diels, L., Roy, S.V., Somers, K., Willems, I., Doyen, W., Mergeay, M., Springael, D. and Leysen, R.
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249
Dimitrov, K. see Boyadzhiev, L. 86 (1993) 137
Dimov, A. see Godjevargova, T. 88 (1994) 279
Ding, L. see Philp, J.L. 88 (1994) 197
Ding, L.H., Jaffrin, M.Y. and Defossez, M.
Concentration polarization formation in ultrafiltration of blood and plasma 84 (1993) 293
Dinh, S.M., Comfort, A.R., Shevchuk, I. and Berner, B.
Temporally controlled transdermal systems: biphasic transdermal delivery of nitroglycerin 89 (1994) 245
Dixon, A.G. see Becker, Y.L. 77 (1993) 233
Dixon, A.G. see Shelekhin, A.B. 83 (1993) 181
Doghieri, F., Nardella, A., Sarti, G.C. and Valentini, C.
Pervaporation of methanol–MTBE mixtures through modified poly(phenylene oxide) membranes 91 (1994) 283
Dolecek, P., Mikulasek, P. and Belfort, G.
The performance of a rotating filter 1. Theoretical analysis of the flow in an annulus with a rotating inner porous wall 99 (1995) 241
Doleček, P.
Mathematical modelling of permeate flow in multichannel ceramic membrane 100 (1995) 111
Donnan, F.G.
Theory of membrane equilibria and membrane potentials in the presence of non-dialysing electrolytes. A contribution to physical-chemical physiology 100 (1995) 45
Dordick, J.S. see Rethwisch, D.G. 95 (1994) 83
Dordick, J.S. see Oppenheim, S.F. 96 (1994) 289
Dornier, M., Decloux, M., Trystram, G. and Lebert, A.
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263
Dotremont, C. see Goethaert, S. 78 (1993) 135
Douglas Way, J. see Collins, J.P. 77 (1993) 265; 96 (1994) 259
Doyen, W. see Diels, L. 100 (1995) 249
Dozol, J.F., Casas, J. and Sastre, A.
Stability of flat sheet supported liquid membranes in the transport of radionuclides from reprocessing concentrate solutions 82 (1993) 237
Drioli, E., Zhang, S. and Basile, A.
Recovery of pyridine from aqueous solution by membrane pervaporation 80 (1993) 309
Drioli, E., Zhang, S. and Basile, A.
On the coupling effect in pervaporation 81 (1993) 43
Dukhin, S.S. see Yaroshchuk, A.E. 79 (1993) 133
Dukhin, S.S. and Mishchuk, N.A.
Intensification of electrodialysis based on electroosmosis of the second kind 79 (1993) 199
Düputell, D. and Staude, E.
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45
Durham, R.J. and Nguyen, M.H.
Hydrophobic membrane evaluation and cleaning for osmotic distillation of tomato puree 87 (1994) 181
Dutré, B. and Trägårdh, G.
Some global transport properties of polysulfone capillary UF membranes 90 (1994) 191
Dutré, B. and Trägårdh, G.
Diffusion through polyethersulfone tubular UF membranes: an experimental approach 92 (1994) 141
Dutrochet, R.J.H.
New observations on endosmosis and exosmosis, and on the cause of this dual phenomenon 100 (1995) 5
Dutta, N.N. see Ghosh, A.C. 96 (1994) 183
Duval, J.-M., Folkers, B., Mulder, M.H.V., Desgrandchamps, G. and Smolders, C.A.
Adsorbent filled membranes for gas separation. Part 1. Improvement of the gas separation properties of polymeric membranes by incorporation of microporous adsorbents 80 (1993) 189
Dyomina, O. see Berezina, N. 86 (1993) 207
Dytnersky, Yu. see Volchek, K. 79 (1993) 253

# E

Earle, R.S. see Levy, P.F. 91 (1994) 135
Edelstein, W.A. see Chung, K.Y. 81 (1993) 151
Edlund, D.J. and Pledger, W.A.
Thermolysis of hydrogen sulfide in a metal-membrane reactor 77 (1993) 255
Edlund, D.J. and Pledger, W.A.
Catalytic platinum-based membrane reactor for removal of $H_2S$ from natural gas streams 94 (1994) 111
Egawa, H. see Nonaka, T. 76 (1993) 193
Eguchi, K. see Chai, M. 96 (1994) 205; 97 (1994) 199
Ehsani, N. see Nyström, M. 87 (1994) 245
Eichholz, E. see Klein, E. 90 (1994) 69; 95 (1994) 199
Eisenberg, A. see Gronowski, A.A. 82 (1993) 83

Elbers, S.J.G. see Brink, L.E.S. 76 (1993) 281
Elluard, M.-P. see Aubert, M.-C. 84 (1993) 229
Elmaleh, S., Jaafari, K., Julbe, A., Randon, J. and Cot, L.
Microfiltration through an infiltrated and a noninfiltrated inorganic composite membrane 97 (1994) 127
Elmidaoui, A. see Cherif, A.T. 76 (1993) 39
Elmore, S. and Lipscomb, G.G.
Analytical approximations of the effect of a fiber size distribution on the performance of hollow fiber membrane separation devices 98 (1995) 49
El Moussaoui, R., Pourcelly, G., Maeck, M., Hurwitz, H.D. and Gavach, C.
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283
Elnashaie, S.S.E.H. see Abasaeed, A.E. 76 (1993) 165; 82 (1993) 75
Elnashaie, S.S.E.H. see Abdalla, B.K. 85 (1993) 229
Enke, C.G. see LaPack, M.A. 86 (1993) 263
Enoch, G.D., Van den Broeke, W.F. and Spiering, W.
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191
Eppelsheim, C., Aubeck, R. and Hampp, N.
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131
Eriksen, O.I., Aksnes, E. and Dahl, I.M.
Facilitated transport of ethene through Nafion membranes. Part I. Water swollen membranes 85 (1993) 89
Eriksen, O.I., Aksnes, E. and Dahl, I.M.
Facilitated transport of ethene through Nafion membranes. Part II. Glycerine treated, water swollen membranes 85 (1993) 99
Ermakova, L.E. see Sidorova, M.P. 79 (1993) 159
Eroğlu, İ., Kalpakçi, R. and Gündüz, G.
Extraction of strontium ions with emulsion liquid membrane technique 80 (1993) 319
Eroğlu, I., Aydemir, A., Türker, L. and Yücel, A.M.
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171
Espenan, J.M. see Brinkert, L. 92 (1994) 131
Etienne, J., Larbot, A., Julbe, A., Guizard, C. and Cot, L.
A microporous zirconia membrane prepared by the sol–gel process from zirconyl oxalate 86 (1993) 95

# F

Fahidy, T.Z. see Robinson, C.W. 80 (1993) 209
Falconer, J.L. see Gokhale, Y.V. 77 (1993) 197
Falconer, J.L. see Jia, M.-D. 90 (1994) 1
Fane, A.G. see Da Costa, A.R. 76 (1993) 245; 87 (1994) 79
Fane, A.G. see Hodgson, P.H. 79 (1993) 35
Fane, A.G. see Costello, M.J. 80 (1993) 1
Fane, A.G. see Kim, K.-J. 80 (1993) 241; 87 (1994) 35; 88 (1994) 93, 103; 93 (1994) 79; 99 (1995) 149
Fane, A.G. see Bertram, C.D. 84 (1993) 279
Fane, A.G. see Zha, F.F. 93 (1994) 255
Fane, A.G. see Yao, S. 99 (1995) 207
Fane, A.G. see Welsch, K. 99 (1995) 229
Fares, A. see Sandeaux, J. 89 (1994) 73
Fares, A., Sandeaux, J., Sandeaux, R. and Gavach, C.
Transport properties of electrodialysis membranes in the presence of arginine II. Competition between the electrotransport of organic and inorganic ions through a cation exchange membrane in an aqueous solution of arginine chlorhydrate and sodium chloride 89 (1994) 83
Favre, E., Schaetzel, P., Nguygen, Q.T., Clément, R. and Néel, J.
Sorption, diffusion and vapor permeation of various penetrants through dense poly(dimethylsiloxane) membranes: a transport analysis 92 (1994) 169
Fee, C. see Robinson, C.W. 80 (1993) 209
Fell, C.J.D. see Hodgson, P.H. 79 (1993) 35
Fell, C.J.D. see Welsch, K. 99 (1995) 229
Feng, X. see Huang, R.Y.M. 84 (1993) 15
Feng, X. and Huang, R.Y.M.
Concentration polarization in pervaporation separation processes 92 (1994) 201
Fengcai, L. see Xuesong, G. 88 (1994) 37
Feron, P., Van Heuven, J.W., Akkerhuis, J.J. and Van der Welle, R.
Design and development of a membrane testcell with uniform mass transfer: Application to characterisation of high flux gas separation membranes 80 (1993) 157
Fick, A.
On liquid diffusion 100 (1995) 33
Field, R., Hang, S. and Arnot, T.
The influence of surfactant on water flux through microfiltration membranes 86 (1993) 291
Field, R.W. see Howell, J.A. 80 (1993) 59
Field, R.W. and Aimar, P.
Ideal limiting fluxes in ultrafiltration: comparison of various theoretical relationships 80 (1993) 107
Field, R.W. see Wang, Y. 95 (1994) 243
Field, R.W., Wu, D., Howell, J.A. and Gupta, B.B.
Critical flux concept for microfiltration fouling 100 (1995) 259
Filho, G.R. and Assunção, R.M.N.d.
Application of the cuprammonium process (process for the production of regenerated cellulose membranes for hemodialysis) to sugar-cane bagasse 82 (1993) 43
Filippov, A., Starov, V.M., Lloyd, D.R., Chakravarti, S. and Glaser, S.
Sieve mechanism of microfiltration 89 (1994) 199
Fleming, G.K. see Koros, W.J. 83 (1993) 1
Flemming, H.-C. see McDonogh, R. 87 (1994) 199
Flora, J.R.V.
Stochastic approach to modeling surface fouling of ultrafiltration membranes 76 (1993) 85

Flowers, D.F. see Wu, J.C.S. 77 (1993) 85
Flowers, D.L. see Lin, C.L. 92 (1994) 45
Flowers, D.L. see Wu, J.C.S. 96 (1994) 275
Foley, G., Malone, D.M. and MacLoughlin, F.
Modelling the effects of particle polydispersity in crossflow filtration 99 (1995) 77
Foley, T. see Ash, R. 76 (1993) 1
Folkers, B. see Duval, J.-M. 80 (1993) 189
Fonade, C. see Arroyo, G. 80 (1993) 117
Fouda, A.E. see Mok, S. 100 (1995) 183
Fraser, T. see Zeman, L. 84 (1993) 93; 87 (1994) 267
Freeman, B.D. see Miranda, N.R. 94 (1994) 67
Frianová, H. see Schlosser, Š. 80 (1993) 99
Fridrikhsberg, D.A. see Sidorova, M.P. 79 (1993) 159
Frimmel, F.H. see Lipp, P. 95 (1994) 185
Fritsch, D. and Peinemann, K.-V.
Novel highly permselective 6F-poly(amide-imide)s as membrane host for nano-sized catalysts 99 (1995) 29
Fritz, S.J. see Whitworth, T.M. 88 (1994) 231
Fritzsche, A.K., Arevalo, A.R., Moore, M.D. and O'Hara, C.
The surface structure and morphology of polyacrylonitrile membranes by atomic force microscopy 81 (1993) 109
Fujii, N. see Kobayashi, T. 86 (1993) 47; 90 (1994) 141
Fujisaki, S. see Nakagawa, T. 94 (1994) 183
Fukuda, M. see Kanamori, T. 88 (1994) 159
Fukuda, T. see Kumazawa, H. 93 (1994) 53
Funke, H.H., Noble, R.D. and Koval, C.A.
Separation of gaseous olefin isomers using facilitated transport membranes 82 (1993) 229
Furusaki, S. see Kobayashi, K. 76 (1993) 209
Furusaki, S. see Lee, W. 81 (1993) 295
Furusaki, S. see Kim, M. 85 (1993) 21
Furusaki, S. see Yamagishi, H. 85 (1993) 71

# G

Gaeta, F.S. see Mita, D.G. 78 (1993) 69
Gagné, S. see Khulbe, K.C. 98 (1995) 201
Gallaher, G.R. and Liu, P.K.T.
Characterization of ceramic membranes I. Thermal and hydrothermal stabilities of commercial 40 Å membranes 92 (1994) 29
Gan, Q. see Bowen, W.R. 80 (1993) 165
Ganapathi, S. see Butterfield, D.A. 91 (1994) 47
Ganguly, S. and Bhattacharya, P.K.
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185
Garaud, J.L., Janot, J.M., Miquel, G. and Seta, P.
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259
Gauthier, S.F. see Pouliot, Y. 80 (1993) 257
Gauthier, S.F. see Gourley, L. 97 (1994) 283
Gavach, C. see Cherif, A.T. 76 (1993) 39
Gavach, C. see Tugas, I. 78 (1993) 25; 85 (1993) 183
Gavach, C. see Pourcelly, G. 85 (1993) 195; 97 (1994) 99
Gavach, C. see Sandeaux, J. 89 (1994) 73
Gavach, C. see Fares, A. 89 (1994) 83
Gavach, C. see El Moussaoui, R. 90 (1994) 283
Gavach, C. see Chapotot, A. 96 (1994) 167
Gavalas, G. see Tsapatsis, M. 87 (1994) 281
Gavalas, G.R. see Ioannides, T. 77 (1993) 207
Gaylor, J.D.S. see Wu, P. 97 (1994) 27
Gekas, V., Trägårdh, G., Aimar, P. and Sanchez, V.
Diffusive flows in ultrafiltration and their effect on membrane retention properties 80 (1993) 73
Gekas, V. see Persson, K.M. 93 (1994) 165; 100 (1995) 155
Gemberling, A. see Bigelow, S.L. 100 (1995) 57
George, E.P. see Chilcott, T.C. 100 (1995) 77
Gésan, G., Daufin, G., Merin, U., Labbé, J.-P. and Quémerais, A.
Fouling during constant flux crossflow microfiltration of pretreated whey. Influence of transmembrane pressure gradient 80 (1993) 131
Ghali, E. see Shu, J. 77 (1993) 181
Ghogomu, J.N. see Selegny, E. 93 (1994) 217
Ghosh, A.C., Borthakur, S. and Dutta, N.N.
Absorption of carbon monoxide in hollow fiber membranes 96 (1994) 183
Gill, J.S., Marwah, U.R. and Misra, B.M.
Preparation and characterization of silicone membranes for supported liquid membrane applications 76 (1993) 157
Gill, W.N. see Mukherjee, D. 97 (1994) 231
Gimbel, R. see Lipp, P. 95 (1994) 185
Giroir-Fendler, A. see Julbe, A. 77 (1993) 137
Glad, B., Irgum, K. and Hörstedt, P.
Photopolymerization and characterization of methacrylate-based reactive composite membranes 100 (1995) 171
Glaser, S. see Filippov, A. 89 (1994) 199
Glatz, F.P., Mülhaupt, R., Schultze, J.D. and Springer, J.
Gas permeabilities and permselectivities of amorphous segmented 6F poly(arylene thioether imide)s and the corresponding poly(arylene sulfone imide)s 90 (1994) 151
Glenn Lipscomb, G. see Banerjee, T. 96 (1994) 241
Glick, B.R. see Robinson, C.W. 80 (1993) 209
Gnusin, N. see Berezina, N. 86 (1993) 207
Gobina, E. and Hughes, R.
Ethane dehydrogenation using a high-temperature catalytic membrane reactor 90 (1994) 11
Godjevargova, T., Dimov, A. and Vasileva, N.
Immobilization of glucose oxidase using acrylonitrile copolymer membranes 88 (1994) 279
Goethaert, S., Dotremont, C., Kuijpers, M., Michiels, M. and Vandecasteele, C.
Coupling phenomena in the removal of chlorinated hydrocarbons by means of pervaporation 78 (1993) 135

Gokhale, Y.V., Noble, R.D. and Falconer, J.L.
Analysis of a membrane enclosed catalytic reactor for butane dehydrogenation 77 (1993) 197
Gooding, C.H. see Hickey, P.J. 88 (1994) 47; 92 (1994) 59; 97 (1994) 53; 98 (1995) 293
Gopalan, R. see Chang, C.-H. 91 (1994) 27
Gostoli, C. see Sarti, G.C. 80 (1993) 21
Gostoli, C. and Bandini, S.
Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1
Goswami, A.N. see Sharma, S.K. 88 (1994) 69
Gotō, A., Takahashi, M., Kuwahara, N. and Kubota, K.
Numerical simulation of solvent diffusion for binary alcohol mixtures in polyacrylonitrile membrane 99 (1995) 107
Goto, M. see Kakoi, T. 84 (1993) 249
Goto, M., Miyata, T., Uezu, K., Kajiyama, T., Nakashio, F., Haraguchi, T., Yamada, K., Ide, S. and Hatanaka, C.
Separation of rare earth metals in a hollow-fiber membrane extractor modified by plasma-graft polymerization 96 (1994) 299
Gotoh, K. see Takagi, R. 92 (1994) 229
Gourley, L., Britten, M., Gauthier, S.F. and Pouliot, Y.
Characterization of adsorptive fouling on ultrafiltration membranes by peptides mixtures using contact angle measurements 97 (1994) 283
Govyadinov, A.N. see Mardilovich, P.P. 98 (1995) 131, 143
Graham, T.
Notice of the singular inflation of a bladder 100 (1995) 9
Graham, T.
On the law of the diffusion of gases 100 (1995) 17
Graham, T.
On the absorption and dialytic separation of gases by colloid septa Part I.—Action of a septum of caoutchouc 100 (1995) 27
Grandjean, B.P.A. see Shu, J. 77 (1993) 181
Grangeon, A. see Spiazzi, E. 80 (1993) 49
Greenberg, A.R. see Shojaie, S.S. 79 (1993) 115; 94 (1994) 255, 281
Greiner, A. see Belfort, G. 77 (1993) 1
Griesser, H.J. see Chen, G. 82 (1993) 99
Gronowski, A.A., Jiang, M., Yeager, H.L., Wu, G. and Eisenberg, A.
Structure and properties of hydrocarbon ionomer membranes. I. Poly(methyl methacrylate-co-methacrylic acid) 82 (1993) 83
Grosso, A. see Bottino, A. 95 (1994) 289
Gu, Z., Wu, Q., Zheng, Z., Li, X., Jiang, Y., Tang, C. and Lin, P.
Laboratory and pilot plant test of yttrium recovery from wastewater by electrostatic pseudo liquid membrane 93 (1994) 137
Guiver, M.D. see Tam, C.M. 78 (1993) 123
Guizard, C. see Julbe, A. 77 (1993) 137
Guizard, C. see Etienne, J. 86 (1993) 95
Guizard, C. see Lacan, P. 100 (1995) 99
Gündüz, G. see Eroğlu, İ. 80 (1993) 319
Guo, Q. see Volkov, V.I. 100 (1995) 273
Guo, Q.H. see Ohya, H. 90 (1994) 91
Gupta, B.B., Zaboubi, B. and Jaffrin, M.Y.
Scaling up pulsatile filtration flow methods to a pilot apparatus equipped with mineral membranes 80 (1993) 13
Gupta, B.B. see Jaffrin, M.Y. 86 (1993) 281
Gupta, B.B. see Field, R.W. 100 (1995) 259
Gupta, M.K. see Jain, A.K. 78 (1993) 53
Gupta, S.K. see Tandon, A. 97 (1994) 83
Gür, T.M.
Permselectivity of zeolite filled polysulfone gas separation membranes 93 (1994) 283

# H

Ha, H.Y., Nam, S.W., Hong, S.-A. and Lee, W.K.
Chemical vapor deposition of hydrogen-permselective silica films on porous glass supports from tetraethylorthosilicate 85 (1993) 279
Haas, O. see Rouilly, M.V. 81 (1993) 89
Habata, Y., Uchida, K., Sato, Y. and Akabori, S.
Liquid membrane transport of alkali metal cations with mixed carrier systems composed of phosphoric acid–crown ether having a side arm 85 (1993) 175
Halling, P.J. see Vaidya, A.M. 97 (1994) 13
Hamann, C.H., Theile, V. and Koter, S.
Transport properties of cation-exchange membranes in aqueous and methanolic solutions. Diffusion and osmosis 78 (1993) 147
Hampp, N. see Eppelsheim, C. 100 (1995) 131
Han, M.-J. and Bhattacharyya, D.
Changes in morphology and transport characteristics of polysulfone membranes prepared by different demixing conditions 98 (1995) 191
Hanaoka, K., Kiyono, R. and Tasaka, M.
Thermal membrane potential across anion-exchange membranes in KCl and $KIO_3$ solutions and the transported entropy of ions 82 (1993) 255
Hang, S. see Field, R. 86 (1993) 291
Hano, T., Ohtake, T., Matsumoto, M. and Ogawa, S.-I.
Application of a liquid surfactant membrane for the recovery of penicillin G 84 (1993) 271
Hano, T., Matsumoto, M. and Ohtake, T.
Continuous extraction of penicillin G with liquid surfactant membrane using Vibro Mixer 93 (1994) 61
Hara, M. see Higuchi, A. 93 (1994) 157
Haraguchi, T. see Goto, M. 96 (1994) 299
Haraya, K. see Itoh, N. 77 (1993) 245; 92 (1994) 239; 99 (1995) 175
Haraya, K. see Sano, T. 95 (1994) 221
Hariharan, D. and Peppas, N.A.
Swelling of ionic and neutral polymer networks in ionic solutions 78 (1993) 1
Hatanaka, C. see Goto, M. 96 (1994) 299
Hattori, K. see Iritani, E. 81 (1993) 1

Hawlader, M.N.A., Ho, J.C. and Malek, A.
An experimental and analytical study of Permasep B10 separation characteristics 87 (1994) 1
Headley, T.J. see Brinker, C.J. 77 (1993) 165
Heintz, A. and Stephan, W.
A generalized solution–diffusion model of the pervaporation process through composite membranes Part I. Prediction of mixture solubilities in the dense active layer using the UNIQUAC model 89 (1994) 143
Heintz, A. and Stephan, W.
A generalized solution–diffusion model of the pervaporation process through composite membranes Part II. Concentration polarization, coupled diffusion and the influence of the porous support layer 89 (1994) 153
Hekkink, J.H.A. see De Lange, R.S.A. 99 (1995) 57
Helmus, F.P. see Rautenbach, R. 87 (1994) 171
Henmi, M. and Yoshioka, T.
Hollow fiber membrane based on polyacrylonitrile with a high degree of polymerization and its properties 85 (1993) 129
Hermia, J. see Blanpain, P. 84 (1993) 37
Hernández, A. see Benavente, J. 80 (1993) 285
Hernández, A. see Prádanos, P. 99 (1995) 1
Hickey, P.J. and Gooding, C.H.
Modeling spiral wound membrane modules for the pervaporative removal of volatile organic compounds from water 88 (1994) 47
Hickey, P.J. and Gooding, C.H.
Mass transfer in spiral wound pervaporation modules 92 (1994) 59
Hickey, P.J. and Gooding, C.H.
The economic optimization of spiral wound membrane modules for the pervaporative removal of VOCs from water 97 (1994) 53
Hickey, P.J. and Gooding, C.H.
Erratum to "Mass transfer in spiral wound pervaporation modules" [J. of Membrane Science 92 (1994) 59–74] 98 (1995) 293
Hidalgo, M. see Palet, C. 98 (1995) 241
Hietala, S.L. see Brinker, C.J. 77 (1993) 165; 94 (1994) 85
Higashijima, T. see Ohya, H. 84 (1993) 185
Higashijima, T., Ohya, H., Tsuchiya, Y., Tokunaga, H., Aihara, M. and Negishi, Y.
Separation of supercritical fluid mixtures of $CO_2$ and petroleum components with an asymmetric polyimide membrane 93 (1994) 165
Higson, S.P.J. see Koochaki, Z. 76 (1993) 261
Higuchi, A., Hara, M., Horiuchi, T. and Nakagawa, T.
Optical resolution of amino acids by ultrafiltration membranes containing serum albumin 93 (1994) 157
Higuchi, A. see Nakagawa, T. 94 (1994) 183
Higuchi, M. see Kurihara, S. 93 (1994) 69
Hijnen, H.J.M. and Smit, J.A.M.
The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285
Hilaly, A. see Ji, W. 97 (1994) 109
Hildenbrand, M. see Schmitz, P. 84 (1993) 171
Hill Jr., C.G. see Peterson, R.A. 94 (1994) 103
Hirai, K. see Matsuyama, H. 92 (1994) 257; 99 (1995) 139
Hlavacek, M. and Bouchet, F.
Constant flowrate blocking laws and an example of their application to dead-end microfiltration of protein solutions 82 (1993) 285
Ho, C.-C., Jan, D.-S. and Tsai, F.-N.
Membrane diffusion-controlled kinetics of ionic transport 81 (1993) 287
Ho, C.-C. see Jan, D.-S. 90 (1994) 109
Ho, J.C. see Hawlader, M.N.A. 87 (1994) 1
Ho, W.S. and Dalrymple, D.C.
Facilitated transport of olefins in $Ag^+$-containing polymer membranes 91 (1994) 13
Hodges, A.M. see Bagnell, L. 85 (1993) 291
Hodges, A.M. see Seen, A.J. 87 (1994) 149
Hodgson, P.H., Leslie, G.L., Schneider, R.P., Fane, A.G., Fell, C.J.D. and Marshall, K.C.
Cake resistance and solute rejection in bacterial microfiltration: The role of the extracellular matrix 79 (1993) 35
Hoffmann, S. see Daiminger, U. 99 (1995) 197
Hogan, P.A. see Costello, M.J. 80 (1993) 1
Hong, S.-A. see Ha, H.Y. 85 (1993) 279
Hong, S.-A. and Yang, J.-W.
Process development of amino acid concentration by a liquid emulsion membrane technique 86 (1993) 181
Hongo, M. see Itoh, N. 77 (1993) 245
Hoogland, M.R. see Bertram, C.D. 84 (1993) 279
Hopfenberg, H.B. see Miranda, N.R. 94 (1994) 67
Horiuchi, T. see Higuchi, A. 93 (1994) 157
Horno, J. and Castilla, J.
Application of network thermodynamics to the computer simulation of non-stationary ionic transport in membranes 90 (1994) 173
Hörstedt, P. see Glad, B. 100 (1995) 171
Hosoi, F. see Yamagishi, H. 85 (1993) 71
Hou, X. see Zhang, J. 97 (1994) 275
Houde, A.Y. and Stern, S.A.
Permeability of ethyl cellulose to light gases. Effect of ethoxy content 92 (1994) 95
Houde, A.Y., Kulkarni, S.S. and Kulkarni, M.G.
Sorption, transport, and history effects in phenolphthalein-based polysulfone 95 (1994) 147
Houi, D. see Schmitz, P. 84 (1993) 171
Howell, J.A., Field, R.W. and Wu, D.
Yeast cell microfiltration: Flux enhancement in baffled and pulsatile flow systems 80 (1993) 59
Howell, J.A. see Wang, Y. 95 (1994) 243
Howell, J.A. see Field, R.W. 100 (1995) 259
Hrdlička, A. see Moreno, C. 81 (1993) 121
Hsiue, G.-H. and Yang, J.-S.
Novel methods in separation of olefin/paraffin mixtures by functional polymeric membranes 82 (1993) 117
Hsiue, G.-H. see Yang, J.-M. 87 (1994) 233
Hsu, F.-C. see Chang, D.-J. 98 (1995) 97
Hsu, J.-H. and Tan, C.-S.

Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273
Hsu, K.K., Nataraj, S., Thorogood, R.M. and Puri, P.S.
$O_2/N_2$ Selectivity improvement for polytrimethylsilylpropyne membranes by UV-irradiation and further enhancement by subambient temperature operation 79 (1993) 1
Hua, D.-W. see Brinker, C.J. 77 (1993) 165
Huang, R.Y.M. see Wei, Y. 82 (1993) 27
Huang, R.Y.M. and Feng, X.
Resistance model approach to asymmetric polyetherimide membranes for pervaporation of isopropanol/water mixtures 84 (1993) 15
Huang, R.Y.M. and Wei, Y.
Pervaporation with latex membranes II. Pervaporation properties and aging effect 87 (1994) 257
Huang, R.Y.M. and Wei, Y.
Pervaporation with latex membranes III. Sorption and pervaporation properties: a comparison between latex and solvent cast membranes 89 (1994) 9
Huang, R.Y.M. see Feng, X. 92 (1994) 201
Hughes, R. see Li, K. 80 (1993) 147
Hughes, R. see Gobina, E. 90 (1994) 11
Huh, Y.-I., Kotake, N., Satoh, M. and Komiyama, J.
Counterion-specific swelling behaviour of crosslinked poly(L-glutamic acid) membranes in aqueous alcohols 81 (1993) 253
Hurndall, M.J., Jacobs, E.P. and Sanderson, R.D.
Chemical composition of thin-film composite reverse osmosis membranes made from poly-2-vinylimidazoline 78 (1993) 283
Hurwitz, H.D. see El Moussaoui, R. 90 (1994) 283
Hwang, S.-J. see Chang, D.-J. 98 (1995) 97
Hwang, S.-T. see Mercea, P.V. 88 (1994) 131
Hwang, S.-T. see Ji, W. 93 (1994) 1; 97 (1994) 109
Hwang, S.-T. see Tsuru, T. 94 (1994) 213; 98 (1995) 57

# I

Ichiki, K. see Kusakabe, K. 95 (1994) 171
Ide, S. see Goto, M. 96 (1994) 299
Igawa, M., Sekimoto, T. and Okochi, H.
Facilitated transport of carbohydrates via complexation with borate ion fixed on an anion-exchange membrane 98 (1995) 177
Ihm, C.-D. and Ihm, S.-K.
Pervaporation of water–ethanol mixtures through sulfonated polystyrene membranes prepared by plasma graft-polymerization 98 (1995) 89
Ihm, S.-K. see Ihm, C.-D. 98 (1995) 89
Ilinich, O.M. and Zamaraev, K.I.
Separation of ethylene and ethane over polyphenyleneoxides membranes: transient increase of selectivity 82 (1993) 149
Ilinich, O.M., Semin, G.L., Vetchinova, Yu.S. and Zamaraev, K.I.
Reverse osmosis for separation of reaction solutions in homogeneous catalysis 86 (1993) 37
Ilinitch, O.M., Lapkin, A.A. and Zamaraev, K.I.
Propylene in polyphenylene oxides membranes: unusual permeability vs. pressure behaviour 98 (1995) 287
Inada, T. see Kita, H. 87 (1994) 139
Inamori, K. see Kumazawa, H. 97 (1994) 7
Ino, M., Otsuki, J., Araki, K. and Seno, M.
Transport characteristics of the photo-driven active transport by triaryl cations across a liquid membrane 89 (1994) 101
Inokuma, S., Sakai, S., Yamamoto, T. and Nishimura, J.
Synthesis of double-looped crownophanes and their ability of amino acid transport through liquid membranes 97 (1994) 175
Ioannides, T. and Gavalas, G.R.
Catalytic isobutane dehydrogenation in a dense silica membrane reactor 77 (1993) 207
Irgum, K. see Glad, B. 100 (1995) 171
Iritani, E., Hattori, K. and Murase, T.
Analysis of dead-end ultrafiltration based on ultracentrifugation method 81 (1993) 1
Islam, M.A., Nikolov, N.D. and Nikolova, J.D.
An electrical model for the relaxation of streaming potential across a charged membrane 84 (1993) 29
Islam, M.A. and Stoicheva, R.N.
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209
Itoh, N., Sanchez C., M.A., Xu, W.-C., Haraya, K. and Hongo, M.
Application of a membrane reactor system to thermal decomposition of $CO_2$ 77 (1993) 245
Itoh, N., Kato, T., Uchida, K. and Haraya, K.
Preparation of pore-free disk of $La_{1-x}Sr_xCoO_3$ mixed conductor and its oxygen permeability 92 (1994) 239
Itoh, N., Wu, T.-H. and Haraya, K.
Two- and three-dimensional analysis of diffusion through a dense membrane supported on a porous material 99 (1995) 175
Iwahashi, M. see Tanaka, Y. 92 (1994) 217
Iwai, K. see Matsuyama, H. 93 (1994) 237
Iwatsubo, T. see Yamasaki, A. 89 (1994) 111

# J

Jaafari, K. see Elmaleh, S. 97 (1994) 127
Jacobs, E.P. see Hurndall, M.J. 78 (1993) 283
Jacobs, E.P. see Linkov, V.M. 95 (1994) 93
Jaffrin, M.Y. see Gupta, B.B. 80 (1993) 13
Jaffrin, M.Y. see Ding, L.H. 84 (1993) 293
Jaffrin, M.Y., Gupta, B.B. and Paullier, P.

Energy saving pulsatile mode cross flow filtration 86 (1993) 281
Jaffrin, M.Y. see Philp, J.L. 88 (1994) 197
Jaffrin, M.Y. see Legallais, C. 91 (1994) 97
Jaffrin, M.Y. and Charrier, J.Ph.
Optimization of ultrafiltration and diafiltration processes for albumin production 97 (1994) 71
Jaffrin, M.Y. see Benkahla, Y.K. 98 (1995) 107
Jain, A.K., Srivastava, R.K., Gupta, M.K. and Das, S.K.
A novel technique in membrane separation processes: Electroosmotic separation of benzene in ethanol solution 78 (1993) 53
Jan, D.-S. see Ho, C.-C. 81 (1993) 287
Jan, D.-S., Ho, C.-C. and Tsai, F.-N.
Combined film and membrane diffusion-controlled transport of ions through charged membrane 90 (1994) 109
Jang, T.-S. see Kim, J.-J. 93 (1994) 209
Janot, J.M. see Garaud, J.L. 91 (1994) 259
Janssen, L.J.J.M., Boersma, A. and Te Nijenhuis, K.
Encapsulation by interfacial polycondensation. III. Microencapsulation; the influence of process conditions on wall permeability 79 (1993) 11
Jarvinen, G.D. see Kathios, D.J. 97 (1994) 251
Jay, M. see Mattingly, C.D. 98 (1995) 275
Jayaraman, V., Lin, Y.S., Pakala, M. and Lin, R.Y.
Fabrication of ultrathin metallic membranes on ceramic supports by sputter deposition 99 (1995) 89
Jerabek, M. see Bashir, I. 95 (1994) 229
Ji, W., Sikdar, S.K. and Hwang, S.-T.
Modeling of multicomponent pervaporation for removal of volatile organic compounds from water 93 (1994) 1
Ji, W., Hilaly, A., Sikdar, S.K. and Hwang, S.-T.
Optimization of multicomponent pervaporation for removal of volatile organic compounds from water 97 (1994) 109
Jia, M.-D., Peinemann, K.-V. and Behling, R.-D.
Ceramic zeolite composite membranes. Preparation, characterization and gas permeation 82 (1993) 15
Jia, M.-D., Chen, B., Noble, R.D. and Falconer, J.L.
Ceramic-zeolite composite membranes and their application for separation of vapor/gas mixtures 90 (1994) 1
Jian, K. and Pintauro, P.N.
Integral asymmetric poly(vinylidene fluoride) (PVDF) pervaporation membranes 85 (1993) 301
Jiang, G. see Chen, H. 95 (1994) 11
Jiang, J.-D. see Juang, R.-S. 96 (1994) 193; 100 (1995) 163
Jiang, M. see Gronowski, A.A. 82 (1993) 83
Jiang, Y. see Gu, Z. 93 (1994) 137
Jicai, H. see Ohya, H. 85 (1993) 1
Jicai, H. see Qunhui, G. 100 (1995) 217
Jo, W.H., Kang, Y.S. and Kim, H.J.
Association behavior in copolymer blend membranes and the pervaporation of water/ethanol mixtures 85 (1993) 81
Jong, F.d. see Van Straaten-Nijenhuis, W.F. 82 (1993) 277
Jönsson, A.-S.
Influence of shear rate on the flux during ultrafiltration of colloidal substances 79 (1993) 93
Jönsson, A.-S. see Lindau, J. 87 (1994) 71
Jonsson, G. see Benavente, J. 80 (1993) 275, 285
Jonsson, G. see Kim, K.J. 87 (1994) 35
Jorné, J. see Lee, M.G. 99 (1995) 39
Joshi, J.B. see Netke, S.A. 91 (1994) 163
Juang, R.-S. and Liang, J.-F.
Equilibrium studies for the interaction of aqueous metal ions and polyacrylic acid by a batch ultrafiltration method 82 (1993) 163
Juang, R.-S. and Liang, J.-F.
Removal of copper and zinc from aqueous sulfate solution with polyacrylic acid by a batch complexation–ultrafiltration process 82 (1993) 175
Juang, R.-S.
Modelling of the competitive permeation of cobalt and nickel in a di(2-ethylhexyl)phosphoric acid supported liquid membrane process 85 (1993) 157
Juang, R.-S. and Jiang, J.-D.
Application of batch ultrafiltration to the separation of W/O emulsions in liquid surfactant membrane processes 96 (1994) 193
Juang, R.-S. and Jiang, J.-D.
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163
Jucker, C. and Clark, M.M.
Adsorption of aquatic humic substances on hydrophobic ultrafiltration membranes 97 (1994) 37
Julbe, A., Guizard, C., Larbot, A., Cot, L. and Giroir-Fendler, A.
The sol–gel approach to prepare candidate microporous inorganic membranes for membrane reactors 77 (1993) 137
Julbe, A. see Etienne, J. 86 (1993) 95
Julbe, A. see Elmaleh, S. 97 (1994) 127
Junter, G.-A. see Lebrun, L. 88 (1994) 253

# K

Kafarski, P. see Wieczorek, P. 78 (1993) 83
Kafarski, P. see Bryjak, M. 85 (1993) 221
Kaipia, L. see Nyström, M. 98 (1995) 249
Kajiyama, T. see Goto, M. 96 (1994) 299
Kakoi, T., Goto, M., Kondo, K. and Nakashio, F.
Extraction of palladium by liquid surfactant membranes using new surfactants 84 (1993) 249
Kaliaguine, S. see Shu, J. 77 (1993) 181
Kalpakçi, R. see Eroğlu, İ. 80 (1993) 319
Kaluta, V.K. see Denisov, G.A. 79 (1993) 211
Kamiya, Y., Mizoguchi, K. and Naito, Y.
Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45
Kamiya, Y. see Wang, J.-S. 98 (1995) 69
Kampa, J. see Le Roux, J.D. 90 (1994) 21; 94 (1994) 121
Kanamori, T., Sakai, K., Awaka, T. and Fukuda, M.

An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159
Kaneko, K.
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59
Kang, Y.S. see Jo, W.H. 85 (1993) 81
Kang, Y.S. see Pellegrino, J. 99 (1995) 163
Kariya, A. see Matsuyama, H. 88 (1994) 85
Karlsson, H.O.E. and Trägårdh, G.
Pervaporation of dilute organic–waters mixtures. A literature review on modelling studies and applications to aroma compound recovery 76 (1993) 121
Karlsson, H.O.E. and Trägårdh, G.
Aroma compound recovery with pervaporation – feed flow effects 81 (1993) 163
Karlsson, H.O.E. and Trägårdh, G.
Aroma compound recovery with pervaporation – the effect of high ethanol concentrations 91 (1994) 189
Kathios, D.J., Jarvinen, G.D., Yarbro, S.L. and Smith, B.F.
A preliminary evaluation of microporous hollow fiber membrane modules for the liquid–liquid extraction of actinides 97 (1994) 251
Kato, T. see Itoh, N. 92 (1994) 239
Kawakatsu, T., Nakao, S. and Kimura, S.
Effects of size and compressibility of suspended particles and surface pore size of membrane on flux in crossflow filtration 81 (1993) 173
Kedem, O. and Bromberg, L.
Ion-exchange membranes in extraction processes 78 (1993) 255
Keizer, K. see De Lange, R.S.A. 99 (1995) 57
Kelly, S.T., Opong, W.S. and Zydney, A.L.
The influence of protein aggregates on the fouling of microfiltration membranes during stirred cell filtration 80 (1993) 175
Khulbe, K.C., Gagné, S., Tabe Mohammadi, A., Matsuura, T. and Lamarche, A.-M.
Investigation of polymer morphology of integral-asymmetric membranes by ESR and Raman spectroscopy and its comparison with homogeneous films 98 (1995) 201
Kim, H.J. see Jo, W.H. 85 (1993) 81
Kim, J.-J., Jang, T.-S., Kwon, Y.-D., Kim, U.Y. and Kim, S.S.
Structural study of microporous polypropylene hollow fiber membranes made by the melt-spinning and cold-stretching method 93 (1994) 209
Kim, J.J. see Park, J.Y. 97 (1994) 263
Kim, K.-J., Sun, P., Chen, V., Wiley, D.E. and Fane, A.G.
The cleaning of ultrafiltration membranes fouled by protein 80 (1993) 241
Kim, K.J., Fane, A.G., Ben Aim, R., Liu, M.G., Jonsson, G., Tessaro, I.C., Broek, A.P. and Bargeman, D.
A comparative study of techniques used for porous membrane characterization: pore characterization 87 (1994) 35
Kim, K.J., Chen, V. and Fane, A.G.
Characterization of clean and fouled membranes using metal colloids 88 (1994) 93
Kim, K.-J. and Fane, A.G.
Low voltage scanning electron microscopy in membrane research 88 (1994) 103
Kim, K.-J., Stevens, P.V. and Fane, A.G.
Porosity dependence of pore entry shape in track-etched membranes by image analysis 93 (1994) 79
Kim, K.-J. and Fane, A.G.
Performance evaluation of surface hydrophilized novel ultrafiltration membranes using aqueous proteins 99 (1995) 149
Kim, M., Saito, K., Furusaki, S. and Sugo, T.
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21
Kim, S.S. see Kim, J.-J. 93 (1994) 209
Kim, S.-W. see Chang, I.-S. 90 (1994) 131
Kim, U.Y. see Kim, J.-J. 93 (1994) 209
Kimura, M. see Sumi, K. 86 (1993) 155
Kimura, S. see Kawakatsu, T. 81 (1993) 173
Kimura, S. see Tanimura, S. 84 (1993) 79
Kimura, S. see Yamaguchi, T. 95 (1994) 39
Kishimoto, F. see Sata, T. 84 (1993) 259
Kita, H., Inada, T., Tanaka, K. and Okamoto, K.
Effect of photocrosslinking on permeability and permselectivity of gases through benzophenone-containing polyimide 87 (1994) 139
Kita, H. see Tanihara, N. 95 (1994) 161
Kitamoto, D. see Shinbo, T. 84 (1993) 241
Kitamoto, D. see Yanagishita, H. 86 (1993) 231
Kitao, T. see Yoshikawa, M. 76 (1993) 255; 89 (1994) 23
Kiyono, R. see Hanaoka, K. 82 (1993) 255
Kiyono, R. see Suzuki, T. 92 (1994) 85
Kiyozumi, Y. see Sano, T. 95 (1994) 221
Klein, E., Eichholz, E. and Yeager, D.H.
Affinity membranes prepared from hydrophilic coatings on microporous polysulfone hollow fibers 90 (1994) 69
Klein, E., Eichholz, E., Theimer, F. and Yeager, D.
Chitosan modified sulfonated poly(ethersulfone) as a support for affinity separations 95 (1994) 199
Klotz, H.C. see Meier, I.K. 94 (1994) 195
Knowles, C.J. see Campbell, M.J. 78 (1993) 35
Knudsen, M.
The laws of molecular flow and of inner friction flow of gases through tubes 100 (1995) 23
Ko, M.K., Pellegrino, J.J., Nassimbene, R. and Marko, P.
Characterization of the adsorption-fouling layer using globular proteins on ultrafiltration membranes 76 (1993) 101
Ko, M.K., Cole, K.D. and Pellegrino, J.
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21
Kobayashi, K., Tsuneda, S., Saito, K., Yamagishi, H., Furusaki, S. and Sugo, T.
Preparation of microfiltration membranes containing anion-exchange groups 76 (1993) 209
Kobayashi, T., Nagai, T., Suzuki, T., Nosaka, Y. and Fujii, N.
Restricted permeation of dextransulfates by electrostatic barrier of negatively charged ultrafiltration membranes: salt effect on the permeation 86 (1993) 47

Kobayashi, T., Miyamoto, T., Nagai, T. and Fujii, N.
Negatively charged ultrafiltration membranes of polyacrylonitrile having amphiphilic quaternary ammonium counter ions 90 (1994) 141
Kober, P.A.
Pervaporation, perstillation and percrystallization 100 (1995) 61
Kocherginsky, N.M. see Mogutov, A.V. 79 (1993) 273; 86 (1993) 127
Kocorek, A. see Wieczorek, P. 78 (1993) 83
Kogure, M. see Tanaka, Y. 92 (1994) 217
Koh, J.-H. see Chang, I.-S. 90 (1994) 131
Koh, U.-C. see Chang, I.-S. 90 (1994) 131
Kokufuta, E. see Sumi, K. 86 (1993) 155
Komiyama, J. see Huh, Y.-I. 81 (1993) 253
Kondo, K. see Kakoi, T. 84 (1993) 249
Konieczny, K. see Bodzek, M. 76 (1993) 269
Konishi, S. see Li, G.-Q. 95 (1994) 63
Kono, K., Tabata, F. and Takagishi, T.
pH-responsive permeability of poly(acrylic acid)–poly(ethylenimine) complex capsule membrane 76 (1993) 233
Koochaki, Z., Higson, S.P.J., Mutlu, M. and Vadgama, P.M.
The diffusion limited oxidase-based glucose enzyme electrode: relation between covering membrane permeability and substrate response 76 (1993) 261
Koops, G.H., Nolten, J.A.M., Mulder, M.H.V. and Smolders, C.A.
Poly(vinyl chloride)polyacrylonitrile composite membranes for the dehydration of acetic acid 81 (1993) 57
Koops, G.H. see Li, S.-G. 94 (1994) 329
Koros, W.J. see Raymond, P.C. 77 (1993) 49
Koros, W.J. see Pesek, S.C. 81 (1993) 71; 88 (1994) 1
Koros, W.J. and Fleming, G.K.
Membrane-based gas separation 83 (1993) 1
Koros, W.J. see Costello, L.M. 90 (1994) 117
Koros, W.J. see Rezac, M.E. 90 (1994) 213; 93 (1994) 193
Koros, W.J. see Trocha, M. 95 (1994) 259
Korotchkova, S.A. see Volkov, V.I. 100 (1995) 273
Koseoglu, S.S. see Ahmadi, S. 89 (1994) 257
Kotake, N. see Huh, Y.-I. 81 (1993) 253
Koter, S. see Hamann, C.H. 78 (1993) 147
Koter, S.
Transport of electrolytes across cation-exchange membranes. Test of Onsager reciprocity in zero-current processes 78 (1993) 155
Kötz, E.R. see Rouilly, M.V. 81 (1993) 89
Koval, C. see Pellegrino, J. 84 (1993) 161
Koval, C.A. see Funke, H.H. 82 (1993) 229
Koval, C.A. see Moganti, S. 93 (1994) 31
Koval, C.A. see Stephan, W. 99 (1995) 259
Kozlowski, J. see Bryjak, M. 85 (1993) 221
Kraisuwansarn, N. see Collins, J.P. 77 (1993) 265
Krantz, W.B. see Shojaie, S.S. 79 (1993) 115; 94 (1994) 255, 281
Krantz, W.B. see Paulsen, F.G. 91 (1994) 265
Krantz, W.B. see Chai, G.-Y. 93 (1994) 175
Kraxner, M. see Bálint, T. 78 (1993) 101
Krentsel, E. see Volchek, K. 79 (1993) 253
Kreulen, H., Smolders, C.A., Versteeg, G.F. and Van Swaaij, W.P.M.
Microporous hollow fibre membrane modules as gas–liquid contactors. Part 1. Physical mass transfer processes A specific application: Mass transfer in highly viscous liquids 78 (1993) 197
Kreulen, H., Smolders, C.A., Versteeg, G.F. and Van Swaaij, W.P.M.
Microporous hollow fibre membrane modules as gas–liquid contactors Part 2. Mass transfer with chemical reaction 78 (1993) 217
Kreulen, H., Smolders, C.A., Versteeg, G.F. and Swaaij, W.P.M.
Selective removal of $H_2S$ from sour gases with microporous membranes. Part II. A liquid membrane of water-free tertiary amines 82 (1993) 185
Kromkamp, J. see Timmer, J.M.K. 92 (1994) 185
Ktari, T., Larchet, C. and Auclair, B.
Mass transfer characterization in Donnan dialysis 84 (1993) 53
Kubota, K. see Gotō, A. 99 (1995) 107
Kuijpers, M. see Goethaert, S. 78 (1993) 135
Kulkarni, A. see Mukherjee, D. 97 (1994) 231
Kulkarni, M.G. see Houde, A.Y. 95 (1994) 147
Kulkarni, S.S. see Houde, A.Y. 95 (1994) 147
Kumazawa, H., Wang, J.-S., Fukuda, T. and Sada, E.
Permeation of carbon dioxide in glassy poly(ether imide) and poly(ether ether ketone) membranes 93 (1994) 53
Kumazawa, H., Inamori, K., Messaoudi, B. and Sada, E.
Permeation behavior for mixed gases in poly(4-methyl-1-pentene) membrane near the glass transition temperature 97 (1994) 7
Kurihara, S., Higuchi, M., Ogata, T. and Nonaka, T.
Photoinduced membrane potential change of methacrylate polymers containing various spiropyrans 93 (1994) 69
Kusakabe, K. see Li, Z.Y. 78 (1993) 247
Kusakabe, K. see Yamaki, T. 85 (1993) 167
Kusakabe, K., Ichiki, K. and Morooka, S.
Separation of $CO_2$ with $BaTiO_3$ membrane prepared by the sol–gel method 95 (1994) 171
Kuwabata, S. and Martin, C.R.
Investigation of the gas-transport properties of polyaniline 91 (1994) 1
Kuwahara, N. see Gotō, A. 99 (1995) 107
Kwon, Y.-D. see Kim, J.-J. 93 (1994) 209

# L

Labbé, J.-P. see Gésan, G. 80 (1993) 131
Lacan, P., Guizard, C., Le Gall, P., Wettling, D. and Cot, L.
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99
Lagow, R.J. see Le Roux, J.D. 90 (1994) 21; 94 (1994) 121
Lai, J.-Y., Liu, M.-J. and Lee, K.-R.

Polycarbonate membrane prepared via a wet phase inversion method for oxygen enrichment from air 86 (1993) 103
Lai, J.Y., Li, S.-H. and Lee, K.-R.
Permselectivities of polysiloxaneimide membrane for aqueous ethanol mixture in pervaporation 93 (1994) 273
Lamarche, A.-M. see Khulbe, K.C. 98 (1995) 201
Lambert, J.M. see Tugas, I. 78 (1993) 25
Lamer, T., Rohart, M.S., Voilley, A. and Baussart, H.
Influence of sorption and diffusion of aroma compounds in silicone rubber on their extraction by pervaporation 90 (1994) 251
Langevin, D., Pinoche, M., Sélégny, E., Métayer, M. and Roux, R.
$CO_2$ facilitated transport through functionalized cation-exchange membranes 82 (1993) 51
Langevin, D. see Selegny, E. 93 (1994) 217
Langsam, M. see Meier, I.K. 94 (1994) 195
LaPack, M.A., Tou, J.C., McGuffin, V.L. and Enke, C.G.
The correlation of membrane permselectivity with Hildebrand solubility parameters 86 (1993) 263
Lapkin, A.A. see Ilinitch, O.M. 98 (1995) 287
Larbot, A. see Julbe, A. 77 (1993) 137
Larbot, A. see Vaija, P. 83 (1993) 173
Larbot, A. see Etienne, J. 86 (1993) 95
Larbot, A. see Alami-Younssi, S. 91 (1994) 87
Larbot, A., Alami-Younssi, S., Persin, M., Sarrazin, J. and Cot, L.
Preparation of a $\gamma$-alumina nanofiltration membrane 97 (1994) 167
Larchet, C. see Ktari, T. 84 (1993) 53
Larson, K., Raghuraman, B. and Wiencek, J.
Electrical and chemical demulsification techniques for microemulsion liquid membranes 91 (1994) 231
Larsson, A.C. and Wimmerstedt, R.
Solvent fluxes measured on a membrane module 84 (1993) 139
Lawson, K.W. see McGuire , K.S. 99 (1995) 127
Lazarova, Z. and Boyadzhiev, L.
Kinetic aspects of copper (II) transport across liquid membrane containing LIX-860 as a carrier 78 (1993) 239
Le, Q.T. see White, D.A. 87 (1994) 297
Le Berre, O. and Daufin, G.
Fouling and selectivity of membranes during separation of $\beta$-casein 88 (1994) 263
Lebert, A. see Dornier, M. 98 (1995) 263
Lebrun, L. and Junter, G.-A.
Diffusion of dextran through microporous membrane filters 88 (1994) 253
Ledjeff, K. see Nolte, R. 83 (1993) 211
Lee, C.-H. see Chang, I.-S. 90 (1994) 131
Lee, H.K. see Vadalia, H.C. 89 (1994) 37
Lee, J. see Butterfield, D.A. 91 (1994) 47
Lee, K.-R. see Lai, J.-Y. 86 (1993) 103; 93 (1994) 273
Lee, M.G. and Jorné, J.
Multiple steady states in ionic membranes with negative conductance 99 (1995) 39
Lee, S.-J., Yang, S.-M. and Park, S.B.
Synthesis of palladium impregnated alumina membrane for hydrogen separation 96 (1994) 223
Lee, W., Saito, K., Furusaki, S., Sugo, T. and Makuuchi, K.
Design of urea-permeable anion-exchange membrane by radiation-induced graft polymerization 81 (1993) 295
Lee, W.H. see Youn, I.J. 100 (1995) 69
Lee, W.K. see Ha, H.Y. 85 (1993) 279
Lee, Y. see Youn, I.J. 100 (1995) 69
Lee, Y.M. and Oh, B.K.
Pervaporation of water–acetic acid mixture through poly(4-vinylpyridine-co-acrylonitrile) membrane 85 (1993) 13
Lee, Y.M. and Oh, B.-K.
Dehydration of water–pyridine mixture through poly(acrylonitrile-*co*-acrylic acid) membrane by pervaporation 98 (1995) 183
Le Gall, P. see Lacan, P. 100 (1995) 99
Legallais, C., Jaffrin, M.Y. and Wojcicki, J.
The effect of protein adsorption on ApoB removal and selectivity in plasma fractionation by membrane 91 (1994) 97
Lejczak, B. see Wieczorek, P. 78 (1993) 83
Lenoël, M. see Blanpain, P. 84 (1993) 37
Lenoir, J. see Spiazzi, E. 80 (1993) 49
Lentsch, S., Aimar, P. and Orozco, J.L.
Enhanced separation of albumin–poly(ethylene glycol) by combination of ultrafiltration and electrophoresis 80 (1993) 221
Le Roux, J.D., Paul, D.R., Kampa, J. and Lagow, R.J.
Surface fluorination of poly(phenylene oxide) composite membranes Part I. Transport properties 90 (1994) 21
Le Roux, J.D., Paul, D.R., Arendt, M.F., Yuan, Y. and Cabasso, I.
Surface fluorination of poly(phenylene oxide) composite membranes Part II. Characterization of the fluorinated layer 90 (1994) 37
Le Roux, J.D., Teplyakov, V.V. and Paul, D.R.
Gas transport properties of surface fluorinated poly(vinyltrimethylsilane) films and composite membranes 90 (1994) 55
Le Roux, J.D. see Rezac, M.E. 90 (1994) 213
Le Roux, J.D., Paul, D.R., Kampa, J. and Lagow, R.J.
Modification of asymmetric polysulfone membranes by mild surface fluorination Part I. Transport properties 94 (1994) 121
Le Roux, J.D., Paul, D.R., Arendt, M., Yuan, Y. and Cabasso, I.
Modification of asymmetric polysulfone membranes by mild surface fluorination Part II. Characterization of the fluorinated surface 94 (1994) 143
Leslie, G.L. see Hodgson, P.H. 79 (1993) 35
Levon, K. see Vadalia, H.C. 89 (1994) 37
Levy, P.F. and Earle, R.S.
The effect of channel height and channel spacers on flux and energy requirements in crossflow filtration 91 (1994) 135
Lewis, R.W.H. see Millward, H.R. 100 (1995) 121
Leysen, R. see Diels, L. 100 (1995) 249
Li, G.-Q., Konishi, S., Saito, K. and Sugo, T.
High collection rate of Pd in hydrochloric acid medium using chelating microporous membrane 95 (1994) 63
Li, H. see Bertram, C.D. 84 (1993) 279
Li, K. and Teo, W.K.
Use of an internally staged permeator in the enrichment of methane from biogas 78 (1993) 181
Li, K., Acharya, D.R. and Hughes, R.

Gas separation in an internally staged permeator: experimental results and theoretical predictions 80 (1993) 147
Li, K., Tai, M.S.L. and Teo, W.K.
Design of a $CO_2$ scrubber for self-contained breathing systems using a microporous membrane 86 (1993) 119
Li, K. see Tai, M.S.L. 87 (1994) 99
Li, K. see Wang, D. 98 (1995) 233
Li, R.H. and Barbari, T.A.
Protein transport through membranes based on toluene diisocyanate surface-modified poly(vinyl alcohol) gels 88 (1994) 115
Li, S.-G., Koops, G.H., Mulder, M.H.V., Van den Boomgaard, T. and Smolders, C.A.
Wet spinning of integrally skinned hollow fiber membranes by a modified dual-bath coagulation method using a triple orifice spinneret 94 (1994) 329
Li, S.-H. see Lai, J.Y. 93 (1994) 273
Li, X. see Gu, Z. 93 (1994) 137
Li, Z.Y., Maeda, H., Kusakabe, K., Morooka, S., Anzai, H. and Akiyama, S.
Preparation of palladium–silver alloy membranes for hydrogen separation by the spray pyrolysis method 78 (1993) 247
Liang, J.-F. see Juang, R.-S. 82 (1993) 163, 175
Liankai, C. see Qunhui, G. 100 (1995) 217
Lim, G.B.A. see McGuire, K.S. 79 (1993) 27
Lin, C.L., Flowers, D.L. and Liu, P.K.T.
Characterization of ceramic membranes II. Modified commercial membranes with pore size under 40 Å 92 (1994) 45
Lin, M.-C. and Takai, N.
Fundamental study of noncross-linking anion exchange membranes 88 (1994) 77
Lin, P. see Gu, Z. 93 (1994) 137
Lin, R.Y. see Jayaraman, V. 99 (1995) 89
Lin, S. see Pellerin, E. 100 (1995) 139
Lin, X., Chen, J. and Xu, J.
Improvement of oxygen/nitrogen permselectivity of poly[1-(trimethylsilyl)-1-propyne) membrane by plasma polymerization 90 (1994) 81
Lin, Y.S.
A theoretical analysis on pore size change of porous ceramic membranes after modification 79 (1993) 55
Lin, Y.S. and Burggraaf, A.J.
Experimental studies on pore size change of porous ceramic membranes after modification 79 (1993) 65
Lin, Y.S. see Chang, C.-H. 91 (1994) 27
Lin, Y.S. see Jayaraman, V. 99 (1995) 89
Lindau, J. and Jönsson, A.-S.
Cleaning of ultrafiltration membranes after treatment of oily waste water 87 (1994) 71
Linkov, V.M., Sanderson, R.D. and Jacobs, E.P.
Highly asymmetrical carbon membranes 95 (1994) 93
Lipp, P., Gimbel, R. and Frimmel, F.H.
Parameters influencing the rejection properties of FT30 membranes 95 (1994) 185
Lipscomb, G.G. see Elmore, S. 98 (1995) 49
Liu, J. see Van Straaten-Nijenhuis, W.F. 82 (1993) 277
Liu, M. see Wu, L.-G. 90 (1994) 199, 207
Liu, M.G. see Kim, K.J. 87 (1994) 35
Liu, M.-J. see Lai, J.-Y. 86 (1993) 103
Liu, P.K.T. see Wu, J.C.S. 77 (1993) 85; 96 (1994) 275
Liu, P.K.T. see Gallaher, G.R. 92 (1994) 29
Liu, P.K.T. see Lin, C.L. 92 (1994) 45
Lloyd, D.R. see McGuire, K.S. 79 (1993) 27; 99 (1995) 127
Lloyd, D.R. see Filippov, A. 89 (1994) 199
Loy, D. see Brinker, C.J. 94 (1994) 85
Lund, C.R.F. see Bernstein, L.A. 77 (1993) 155
Luque, S. see Nyström, M. 98 (1995) 249
Ly, Y. and Cheng, Y.-L.
Electrically-modulated variable permeability liquid crystalline polymeric membrane 77 (1993) 99
Lynn, S. see Markels, J.H. 86 (1993) 241

# M

Ma, Y.H. see Becker, Y.L. 77 (1993) 233
Ma, Y.H. see Shelekhin, A.B. 83 (1993) 181
Machida, M. see Chai, M. 96 (1994) 205; 97 (1994) 199
Mackley, M.R. and Sherman, N.E.
Cake filtration mechanisms in steady and unsteady flows 77 (1993) 113
MacLoughlin, F. see Foley, G. 99 (1995) 77
Maeck, M. see El Moussaoui, R. 90 (1994) 283
Maeda, H. see Li, Z.Y. 78 (1993) 247
Maeda, H. see Yamaki, T. 85 (1993) 167
Maeda, Y. see Yoshikawa, M. 82 (1993) 157
Maejima, C. see Yanagishita, H. 86 (1993) 231
Magara, K. see Yoshikawa, M. 82 (1993) 157
Maillols, J. see Tugas, I. 78 (1993) 25
Makuuchi, K. see Lee, W. 81 (1993) 295
Malek, A. see Hawlader, M.N.A. 87 (1994) 1
Mallevialle, J. see Crozes, G. 84 (1993) 61
Malone, D.M. see Foley, G. 99 (1995) 77
Manem, J. see Chang, J. 80 (1993) 233
Mansfield, R.K. see Mattingly, C.D. 98 (1995) 275
Mansouri, J. and Burford, R.P.
Novel membranes from conducting polymers 87 (1994) 23
Mao, Z.G. see Nii, S. 93 (1994) 245
Mardilovich, P.P., Govyadinov, A.N., Mukhurov, N.I., Rzhevskii, A.M. and Paterson, R.
New and modified anodic alumina membranes Part I. Thermotreatment of anodic alumina membranes 98 (1995) 131
Mardilovich, P.P., Govyadinov, A.N., Mazurenko, N.I. and Paterson, R.
New and modified anodic alumina membranes Part II. Comparison of solubility of amorphous (normal) and polycrystalline anodic alumina membranes 98 (1995) 143

Mariñas, B.J. see Whitworth, T.M. 88 (1994) 231
Markels, J.H., Lynn, S. and Radke, C.J.
Micellar ultrafiltration in an unstirred batch cell at constant flux 86 (1993) 241
Marker, T.L. see Buxbaum, R.E. 85 (1993) 29
Marko, P. see Ko, M.K. 76 (1993) 101
Marr, R. see Reisinger, H. 80 (1993) 85
Marshall, K.C. see Hodgson, P.H. 79 (1993) 35
Martin, C.R. see Kuwabata, S. 91 (1994) 1
Martin, C.R. see Parthasarathy, A. 94 (1994) 249
Martin, C.R. see Chen, W.-J. 95 (1994) 51
Martin, C.R. see Aranda, P. 99 (1995) 185
Martin, I. see Broom, G.P. 87 (1994) 219
Martin, T. see Bashir, I. 95 (1994) 229
Marwah, U.R. see Gill, J.S. 76 (1993) 157
Masuoka, T. see Yamasaki, A. 89 (1994) 111
Matsuda, T. see Uragami, T. 88 (1994) 243
Matsumoto, K., Xu, P. and Nishikimi, T.
Gas permeation of aromatic polyimides. I. Relationship between gas permeabilities and dielectric constants 81 (1993) 15
Matsumoto, K. and Xu, P.
Gas permeation of aromatic polyimides. II. Influence of chemical structure 81 (1993) 23
Matsumoto, M. see Hano, T. 84 (1993) 271; 93 (1994) 61
Matsumoto, N. see Nonaka, T. 92 (1994) 117
Matsusaki, K. see Sata, T. 100 (1995) 229
Matsuura, T. see Bouchard, C.R. 97 (1994) 215
Matsuura, T. see Khulbe, K.C. 98 (1995) 201
Matsuura, T. see Tabe Mohammadi, A. 98 (1995) 281
Matsuura, T. see Mok, S. 100 (1995) 183
Matsuyama, H., Kariya, A. and Teramoto, M.
Characteristics of plasma polymerized membrane from octamethyltrisiloxane and its application to the pervaporation of ethanol–water mixture 88 (1994) 85
Matsuyama, H. see Teramoto, M. 91 (1994) 209
Matsuyama, H., Shimomura, T. and Teramoto, M.
Formation and characteristics of dynamic membrane for ultrafiltration of protein in binary protein system 92 (1994) 107
Matsuyama, H., Hirai, K. and Teramoto, M.
Selective permeation of carbon dioxide through plasma polymerized membrane from diisopropylamine 92 (1994) 257
Matsuyama, H., Teramoto, M. and Iwai, K.
Development of a new functional cation-exchange membrane and its application to facilitated transport of $CO_2$ 93 (1994) 237
Matsuyama, H., Teramoto, M. and Hirai, K.
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139
Mattingly, C.D., Mansfield, R.K., Bhattacharyya, D. and Jay, M.
Membrane-based scintillation proximity assays I. Detection and quantification of $^{14}CO_2$ 98 (1995) 275
Mau, A.W.H. see Chen, G. 82 (1993) 99
Mau, A.W.-H. see Bagnell, L. 85 (1993) 291
Mau, A.W.-H. see Seen, A.J. 87 (1994) 149
Mavrov, V. see Nikolov, N.D. 83 (1993) 167
Mazurenko, N.I. see Mardilovich, P.P. 98 (1995) 143
McCandless, F.P.
A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51
McDonogh, R., Schaule, G. and Flemming, H.-C.
The permeability of biofouling layers on membranes 87 (1994) 199
Mc Donogh, R.M. see Welsch, K. 99 (1995) 229
McGinniss, V.D. and Whitmore, R.S.
Preparation and analysis of thin polysulfone films under high and low gravitational field environments 98 (1995) 27
McGuffin, V.L. see LaPack, M.A. 86 (1993) 263
McGuire, K.S., Lloyd, D.R. and Lim, G.B.A.
Microporous membrane formation via thermally-induced phase separation. VII. Effect of dilution, cooling rate, and nucleating agent addition on morphology 79 (1993) 27
McGuire , K.S., Lawson, K.W. and Lloyd, D.R.
Pore size distribution determination from liquid permeation through microporous membranes 99 (1995) 127
Mchedlishvili, B.V., Beryozkin, V.V., Oleinikov, V.A., Vilensky, A.I. and Vasilyev, A.B.
Structure, physical and chemical properties and applications of nuclear filters as a new class of membranes 79 (1993) 285
McLoughlin, R. see Campbell, M.J. 78 (1993) 35
Meares, P. see Debeaufort, F. 91 (1994) 125
Meertens, R.M. see Park, H.C. 90 (1994) 265
Meier, I.K., Langsam, M. and Klotz, H.C.
Selectivity enhancement via photooxidative surface modification of polyimide air separation membranes 94 (1994) 195
Meijerink, J. see Cao, G.Z. 83 (1993) 221
Meireles, M. see Zydney, A.L. 91 (1994) 293
Mengual, J.I., Ortiz de Zárate, J.M., Peña, L. and Velázquez, A.
Osmotic distillation through porous hydrophobic membranes 82 (1993) 129
Mengual, J.I. see Barragán, V.M. 95 (1994) 1
Mensitieri, G., Del Nobile, M.A., Monetta, T., Nicodemo, L. and Bellucci, F.
The effect of film thickness on oxygen sorption and transport in dry and water-saturated Kapton® polyimide 89 (1994) 131
Mercea, P.V. and Hwang, S.-T.
Oxygen separation from air by a combined pressure swing adsorption and continuous membrane column process 88 (1994) 131
Mergeay, M. see Diels, L. 100 (1995) 249
Merin, U. see Gésan, G. 80 (1993) 131
Messaoudi, B. see Kumazawa, H. 97 (1994) 7
Métayer, M. see Langevin, D. 82 (1993) 51
Métayer, M. see Selegny, E. 93 (1994) 217
Mi, Y., Stern, S.A. and Trohalaki, S.
Dependence of the gas permeability of some polyimide isomers on their intrasegmental mobility 77 (1993) 41
Michelitsch, E. see Pellerin, E. 100 (1995) 139
Michiels, M. see Goethaert, S. 78 (1993) 135
Mikulasek, P. see Belfort, G. 77 (1993) 23
Mikulasek, P. see Dolecek, P. 99 (1995) 241
Miller, K.D., Weitzel, S. and Rodgers, V.G.J.
Reduction of membrane fouling in the presence of high polarization resistance 76 (1993) 77
Miller, K.D. see Rodgers, V.G.J. 85 (1993) 39

Miller, S.J. see Rezac, M.E. 93 (1994) 193
Millesime, L., Amiel, C. and Chaufer, B.
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223
Millward, H.R., Bellhouse, B.J., Sobey, I.J. and Lewis, R.W.H.
Enhancement of plasma filtration using the concept of the vortex wave 100 (1995) 121
Minet, R.G. see Ziaka, Z.D. 77 (1993) 221
Miquel, G. see Garaud, J.L. 91 (1994) 259
Miranda, N.R., Willits, J.T., Freeman, B.D. and Hopfenberg, H.B.
Organic vapor sorption and transport in a thermotropic liquid crystalline polyester 94 (1994) 67
Mirmohseni, A., Price, W.E. and Wallace, G.G.
Electrochemically controlled transport of small charged organic molecules across conducting polymer membranes 100 (1995) 239
Mishchuk, N.A. see Dukhin, S.S. 79 (1993) 199
Mishra, L. see Upadhyay, S. 93 (1994) 149
Misra, B.M. see Gill, J.S. 76 (1993) 157
Mita, D.G., Pecorella, M.A., Russo, P., Rossi, S., Bencivenga, U., Canciglia, P. and Gaeta, F.S.
Effect of temperature gradients on the activity of enzymes immobilized on natural polymeric matrices 78 (1993) 69
Mitchell, J.K.
On the penetrativeness of fluids 100 (1995) 11
Miyamoto, T. see Kobayashi, T. 90 (1994) 141
Miyata, T. see Uragami, T. 88 (1994) 243
Miyata, T. see Goto, M. 96 (1994) 299
Mizoguchi, K. see Yamasaki, A. 89 (1994) 111
Mizoguchi, K. see Kamiya, Y. 93 (1994) 45
Mizukami, F. see Sano, T. 95 (1994) 221
Mochizuki, S. and Zydney, A.L.
Theoretical analysis of pore size distribution effects on membrane transport 82 (1993) 211
Moganti, S., Noble, R.D. and Koval, C.A.
Analysis of a membrane/distillation column hybrid process 93 (1994) 31
Mogutov, A.V. and Kocherginsky, N.M.
Macrokinetics of facilitated transport across liquid membranes: "Big carrousel" 79 (1993) 273
Mogutov, A.V. and Kocherginsky, N.M.
Macrokinetics of facilitated transport through liquid membranes. Part 2. Stirring 86 (1993) 127
Mohammadi, T. and Skyllas-Kazacos, M.
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77
Mok, S., Worsfold, D.J., Fouda, A.E., Matsuura, T., Wang, S. and Chan, K.
Study on the effect of spinning conditions and surface treatment on the geometry and performance of polymeric hollow-fibre membranes 100 (1995) 183
Molénat, J. see Sandeaux, J. 84 (1993) 213
Monbouquette, H.G. see Walsh, A.J. 84 (1993) 107
Monbouquette, H.G. see Castro, R.P. 84 (1993) 151
Monbouquette, H.G. see Van Zanten, J.H. 99 (1995) 49
Monetta, T. see Mensitieri, G. 89 (1994) 131
Monticelli, O. see Bottino, A. 95 (1994) 289
Moore, M.D. see Fritzsche, A.K. 81 (1993) 109
Moreno, C., Hrdlička, A. and Valiente, M.
Permeation of neodymium and praseodymium through supported liquid membranes containing di-(2-ethylhexyl)phosphoric acid as a carrier 81 (1993) 121
Morooka, S. see Li, Z.Y. 78 (1993) 247
Morooka, S. see Yamaki, T. 85 (1993) 167
Morooka, S. see Kusakabe, K. 95 (1994) 171
Moser, W.R. see Becker, Y.L. 77 (1993) 233
Mukherjee, D., Kulkarni, A. and Gill, W.N.
Flux enhancement of reverse osmosis membranes by chemical surface modification 97 (1994) 231
Mukhurov, N.I. see Mardilovich, P.P. 98 (1995) 131
Mulder, M.H.V. see Duval, J.-M. 80 (1993) 189
Mulder, M.H.V. see Koops, G.H. 81 (1993) 57
Mulder, M.H.V. see Wessling, M. 86 (1993) 193
Mulder, M.H.V. see Te Hennepe, H.J.C. 89 (1994) 185
Mulder, M.H.V. see Park, H.C. 90 (1994) 265
Mulder, M.H.V. see Li, S.-G. 94 (1994) 329
Mülhaupt, R. see Nolte, R. 83 (1993) 211
Mülhaupt, R. see Glatz, F.P. 90 (1994) 151
Müller, J. see Weichart, J. 86 (1993) 87
Muñoz, M. see Palet, C. 98 (1995) 241
Murase, T. see Iritani, E. 81 (1993) 1
Murphy, W.D. see Reiss, H. 88 (1994) 145
Murray, C.L. see Ash, R. 76 (1993) 1
Muruganandam, N. see Bikson, B. 94 (1994) 313
Mutlu, M. see Koochaki, Z. 76 (1993) 261
Myerson, A.S. see Vadalia, H.C. 89 (1994) 37

# N

Nagai, T. see Kobayashi, T. 86 (1993) 47; 90 (1994) 141
Nagy, E. see Bálint, T. 78 (1993) 101
Nagy, O.B. see Szpakowska, M. 76 (1993) 27
Naito, Y. see Kamiya, Y. 93 (1994) 45
Nakagaki, M. see Takagi, R. 92 (1994) 229
Nakagawa, T. see Higuchi, A. 93 (1994) 157
Nakagawa, T., Fujisaki, S., Nakano, H. and Higuchi, A.
Physical modification of poly[1-(trimethylsilyl)-1-propyne] membranes for gas separation 94 (1994) 183
Nakai, K. see Teramoto, M. 91 (1994) 209
Nakajima, H. see Ohya, H. 97 (1994) 91
Nakamura, I. see Sumi, K. 86 (1993) 155
Nakane, T. see Yanagishita, H. 86 (1993) 231; 89 (1994) 215
Nakano, H. see Nakagawa, T. 94 (1994) 183
Nakao, S. see Kawakatsu, T. 81 (1993) 173
Nakao, S. see Tanimura, S. 84 (1993) 79

Nakao, S. see Yamaguchi, T. 95 (1994) 39
Nakao, S.
Determination of pore size and pore size distribution 3. Filtration membranes 96 (1994) 131
Nakashio, F. see Kakoi, T. 84 (1993) 249
Nakashio, F. see Goto, M. 96 (1994) 299
Nam, S.W. see Ha, H.Y. 85 (1993) 279
Nardella, A. see Doghieri, F. 91 (1994) 283
Narębska, A. and Warszawski, A.
Diffusion dialysis Transport phenomena by irreversible thermodynamics 88 (1994) 167
Nassimbene, R. see Ko, M.K. 76 (1993) 101
Nassr-Allah, A. see Audinos, R. 76 (1993) 147
Nataraj, S. see Hsu, K.K. 79 (1993) 1
Nazzal, F.F. and Wiesner, M.R.
pH and ionic strength effects on the performance of ceramic membranes in water filtration 93 (1994) 91
Néel, J. see Xie, H.A. 81 (1993) 97
Néel, J. see Favre, E. 92 (1994) 169
Negishi, Y. see Ohya, H. 84 (1993) 185; 85 (1993) 1; 90 (1994) 91; 97 (1994) 91
Negishi, Y. see Higashijima, T. 93 (1994) 165
Negishi, Y. see Qunhui, G. 98 (1995) 223
Nelson, J.K. see Bikson, B. 94 (1994) 313
Netke, S.A., Sawant, S.B., Joshi, J.B. and Pangarkar, V.G.
Sorption and permeation of aqueous picolines in elastomeric membranes 91 (1994) 163
Newson, E.J. see Ali, J.K. 89 (1994) 171
Ng, W.J. see Tai, M.S.L. 87 (1994) 99
Nguyen, M.H. see Durham, R.J. 87 (1994) 181
Nguyen, P. see Athayde, A.L. 94 (1994) 299
Nguyen, Q.T. see Xie, H.A. 81 (1993) 97
Nguyen, Q.T. see Nguyen, X.Q. 91 (1994) 65
Nguyen, X.Q., Brož, Z., Vašák, F. and Nguyen, Q.T.
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65
Nguygen, Q.T. see Favre, E. 92 (1994) 169
Ni, P., Zhang, M. and Yan, N.
Extraction of hexavalent chromium ions with polyurea microcapsules 89 (1994) 1
Nicodemo, L. see Mensitieri, G. 89 (1994) 131
Niemi, H. and Palosaari, S.
Calculation of permeate flux and rejection in simulation of ultrafiltration and reverse osmosis processes 84 (1993) 123
Niemi, H. and Palosaari, S.
Flowsheet simulation of ultrafiltration and reverse osmosis processes 91 (1994) 111
Nii, S., Mao, Z.G. and Takeuchi, H.
Pervaporation with sweeping gas in polymeric hollow fiber membrane module Separation of alcohols from aqueous solution 93 (1994) 245
Nikolaev, E.V. see Denisov, G.A. 79 (1993) 211
Nikolov, N.D., Mavrov, V. and Nikolova, J.D.
Ultrafiltration in a tubular membrane under simultaneous action of pulsating pressures in permeate and feed solution 83 (1993) 167
Nikolov, N.D. see Islam, M.A. 84 (1993) 29
Nikolova, J.D. see Nikolov, N.D. 83 (1993) 167
Nikolova, J.D. see Islam, M.A. 84 (1993) 29
Nikonenko, V.V. see Zabolotsky, V.I. 79 (1993) 181
Nishikimi, T. see Matsumoto, K. 81 (1993) 15
Nishimura, J. see Inokuma, S. 97 (1994) 175
Nitsch, W. see Daiminger, U. 99 (1995) 197
Noble, R. see Pellegrino, J. 84 (1993) 161
Noble, R.D. see Gokhale, Y.V. 77 (1993) 197
Noble, R.D. see Funke, H.H. 82 (1993) 229
Noble, R.D. see Wan, C. 84 (1993) 191
Noble, R.D. see Jia, M.-D. 90 (1994) 1
Noble, R.D. see Moganti, S. 93 (1994) 31
Noble, R.D. see Collins, J.P. 99 (1995) 249
Noble, R.D. see Stephan, W. 99 (1995) 259
Nobrega, R. see Von Meien, O.F. 95 (1994) 277
Nollet, J.A.(Abbé)
Investigations on the causes for the ebullition of liquids 100 (1995) 1
Nolte, R., Ledjeff, K., Bauer, M. and Mülhaupt, R.
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211
Nolten, J.A.M. see Koops, G.H. 81 (1993) 57
Nonaka, T., Takeda, T. and Egawa, H.
Uphill transport of amino acids through 2,3-epithiopropyl methacrylate–2-acrylamide-2-methyl propane sulfonic acid copolymer membranes 76 (1993) 193
Nonaka, T. and Matsumoto, N.
Uphill and selective transport of anions through 2,3-epithiopropyl methacrylate–butyl methacrylate– methacryloyloxyethyltrimethylammonium chloride terpolymer membranes 92 (1994) 117
Nonaka, T. see Kurihara, S. 93 (1994) 69
Nosaka, Y. see Kobayashi, T. 86 (1993) 47
Notaro, F. see Prasad, R. 94 (1994) 225
Nunes, S.P. see Blicke, C. 79 (1993) 83
Nyström, M., Pihlajamäki, A. and Ehsani, N.
Characterization of ultrafiltration membranes by simultaneous streaming potential and flux measurements 87 (1994) 245
Nyström, M. see Causserand, C. 88 (1994) 211
Nyström, M., Kaipia, L. and Luque, S.
Fouling and retention of nanofiltration membranes 98 (1995) 249

# O

Odell, R.A. see Bertram, C.D. 84 (1993) 279
Ogata, T. see Kurihara, S. 93 (1994) 69

Ogawa, S.-I. see Hano, T. 84 (1993) 271
Ogura, S. see Sata, T. 84 (1993) 259
Oh, B.K. see Lee, Y.M. 85 (1993) 13; 98 (1995) 183
O'Hara, C. see Fritzsche, A.K. 81 (1993) 109
Ohnishi, N. see Teramoto, M. 91 (1994) 209
Ohtake, T. see Hano, T. 84 (1993) 271; 93 (1994) 61
Ohya, H., Higashijima, T., Tsuchiya, Y., Tokunaga, H. and Negishi, Y.
Separation of supercritical $CO_2$ and iso-octane mixtures with an asymmetric polyimide membrane 84 (1993) 185
Ohya, H., Jicai, H. and Negishi, Y.
Studies on distribution and reverse osmosis properties of cellulose acetate derivatives for organic compounds 85 (1993) 1
Ohya, H., Shibata, M., Negishi, Y., Guo, Q.H. and Choi, H.S.
The effect of molecular weight cut-off of PAN ultrafiltration support layer on separation of water–ethanol mixtures through pervaporation with PAA–PAN composite membrane 90 (1994) 91
Ohya, H. see Higashijima, T. 93 (1994) 165
Ohya, H., Nakajima, H., Togami, N., Aihara, M. and Negishi, Y.
Separation of hydrogen from thermochemical processes using zirconia–silica composite membrane 97 (1994) 91
Ohya, H. see Qunhui, G. 98 (1995) 223; 100 (1995) 217
Ohya, H. see Volkov, V.I. 100 (1995) 273
Oikawa, E. see Aoki, T. 99 (1995) 117
Okamoto, J. see Yamagishi, H. 85 (1993) 71
Okamoto, K. see Kita, H. 87 (1994) 139
Okamoto, K. see Tanihara, N. 95 (1994) 161
Okano, T. see Yoshida, R. 89 (1994) 267
Okochi, H. see Igawa, M. 98 (1995) 177
Okuno, H., Renzo, K. and Uragami, T.
Influence of casting solution additive, degree of polymerization, and polymer concentration on poly(vinyl chloride) membrane properties and performance 83 (1993) 199
Okuno, H. see Uragami, T. 88 (1994) 243
Okuyama, Y. see Yoshida, R. 89 (1994) 267
Oleinikov, V.A. see Mchedlishvili, B.V. 79 (1993) 285
Onurval, N. see Stern, S.A. 76 (1993) 89
Opong, W.S. see Kelly, S.T. 80 (1993) 175
Oppenheim, S.F., Buettner, G.R., Dordick, J.S. and Rodgers, V.G.J.
Applying electron paramagnetic resonance spectroscopy to the study of fouling in protein ultrafiltration 96 (1994) 289
Orozco, J.L. see Lentsch, S. 80 (1993) 221
Ortiz de Zárate, J.M. see Mengual, J.I. 82 (1993) 129
Otsuki, J. see Ino, M. 89 (1994) 101
Ould-Dris, A. see Benkahla, Y.K. 98 (1995) 107

# P

Pakala, M. see Jayaraman, V. 99 (1995) 89
Palecek, S.P. and Zydney, A.L.
Hydraulic permeability of protein deposits formed during microfiltration: effect of solution pH and ionic strength 95 (1994) 71
Palet, C., Muñoz, M., Hidalgo, M. and Valiente, M.
Transport of vanadium(V) through a tricaprylylmethylammonium solid supported liquid membrane from aqueous acetic acid/acetate solutions 98 (1995) 241
Palosaari, S. see Niemi, H. 84 (1993) 123; 91 (1994) 111
Pangarkar, V.G. see Netke, S.A. 91 (1994) 163
Papadopoulos, T. and Sirkar, K.K.
A modified hollow fiber contained liquid membrane technique for gas separation at high pressures 94 (1994) 163
Parham, H. and Shamsipur, M.
Highly selective and efficient transport of mercury as $Hg(NO^2)^{2-}{}_4$ ion using $Ba^{2+}$–18-crown-6 as carrier 86 (1993) 29
Parham, H. and Shamsipur, M.
Selective membrane transport of $Pb^{2+}$ ion by a cooperative carrier composed of 18-crown-6, tetrabutylammonium iodide and palmitic acid 95 (1994) 21
Parida, S. see Rethwisch, D.G. 95 (1994) 83
Paris, P. see Brinkert, L. 92 (1994) 131
Park, C.H. see Collins, J.P. 99 (1995) 249
Park, H.C., Meertens, R.M., Mulder, M.H.V. and Smolders, C.A.
Pervaporation of alcohol–toluene mixtures through polymer blend membranes of poly(acrylic acid) and poly(vinyl alcohol) 90 (1994) 265
Park, J.Y., Choi, C.K. and Kim, J.J.
A study on dynamic separation of silica slurry using a rotating membrane filter 1. Experiments and filtrate fluxes 97 (1994) 263
Park, S.B. see Lee, S.-J. 96 (1994) 223
Parthasarathy, A., Brumlik, C.J., Martin, C.R. and Collins, G.E.
Interfacial polymerization of thin polymer films onto the surface of a microporous hollow-fiber membrane 94 (1994) 249
Paterson, R. see Randon, J. 98 (1995) 119
Paterson, R. see Mardilovich, P.P. 98 (1995) 131, 143
Paul, D.R. see Raymond, P.C. 77 (1993) 49
Paul, D.R. see Le Roux, J.D. 90 (1994) 21, 37, 55; 94 (1994) 121, 143
Paul, D.R. see Rezac, M.E. 90 (1994) 213
Paullier, P. see Jaffrin, M.Y. 86 (1993) 281
Paulsen, F.G., Shojaie, S.S. and Krantz, W.B.
Effect of evaporation step on macrovoid formation in wet-cast polymeric membranes 91 (1994) 265
Paunović, R.N. see Tekić, M.N. 96 (1994) 213
Pecorella, M.A. see Mita, D.G. 78 (1993) 69
Peinemann, K.-V. see Blicke, C. 79 (1993) 83
Peinemann, K.-V. see Jia, M.-D. 82 (1993) 15
Peinemann, K.-V. see Fritsch, D. 99 (1995) 29
Pek, U.-H. see Chang, I.-S. 90 (1994) 131
Pellegrino, J., Wang, D., Rabago, R., Noble, R. and Koval, C.
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161
Pellegrino, J. see Ko, M.K. 93 (1994) 21
Pellegrino, J. and Kang, Y.S.
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

Pellegrino, J.J. see Ko, M.K. 76 (1993) 101
Pellerin, E., Michelitsch, E., Darcovich, K., Lin, S. and Tam, C.M.
Turbulent transport in membrane modules by CFD simulation in two dimensions 100 (1995) 139
Peña, L. see Mengual, J.I. 82 (1993) 129
Peppas, N.A. see Hariharan, D. 78 (1993) 1
Persin, M. see Alami-Younssi, S. 91 (1994) 87
Persin, M. see Larbot, A. 97 (1994) 167
Persson, K.M., Trägårdh, G. and Dejmek, P.
Fouling behaviour of silica on four different microfiltration membranes 76 (1993) 51
Persson, K.M., Capannelli, G., Bottino, A. and Trägårdh, G.
Porosity and protein adsorption of four polymeric microfiltration membranes 76 (1993) 61
Persson, K.M., Gekas, V. and Trägårdh, G.
On the presence of double log-normal permeability distributions in ultrafiltration membranes 93 (1994) 165
Persson, K.M., Gekas, V. and Trägårdh, G.
Study of membrane compaction and its influence on ultrafiltration water permeability 100 (1995) 155
Pesek, S.C. and Koros, W.J.
Aqueous quenched asymmetric polysulfone membranes prepared by dry/wet phase separation 81 (1993) 71
Pesek, S.C. and Koros, W.J.
Aqueous quenched asymmetric polysulfone hollow fibers prepared by dry/wet phase separation 88 (1994) 1
Petersen, R.J.
Composite reverse osmosis and nanofiltration membranes 83 (1993) 81
Peterson, E.S. and Stone, M.L.
Helium separation properties of phosphazene polymer membranes 86 (1993) 57
Peterson, R.A., Anderson, M.A. and Hill Jr., C.G.
Development of $TiO_2$ membranes for gas phase nanofiltration 94 (1994) 103
Petrovskaya, T. see Rajalo, G. 89 (1994) 93
Philp, J.L., Jaffrin, M.Y. and Ding, L.
Protein adsorption and trapping during steady and pulsed flow plasma cross-flow filtration 88 (1994) 197
Pihlajamäki, A. see Nyström, M. 87 (1994) 245
Pimbley, J.M. see Belfort, G. 77 (1993) 1, 23
Pimbley, J.M. see Zydney, A.L. 91 (1994) 293
Pinho, M.N.d. see Brites, A.M. 78 (1993) 265
Pinoche, M. see Langevin, D. 82 (1993) 51
Pintauro, P.N. see Jian, K. 85 (1993) 301
Pledger, W.A. see Edlund, D.J. 77 (1993) 255; 94 (1994) 111
Plucinski, P. see Daiminger, U. 99 (1995) 197
Ponomarev, V.L. see Sigal, V.L. 81 (1993) 263
Pope, J.M. see Yao, S. 99 (1995) 207
Pouliot, M., Pouliot, Y., Britten, M. and Ross, N.
Effects of pH and ionic environment on the permeability and rejective properties of an alumina microfiltration membrane for whey proteins 95 (1994) 125
Pouliot, Y., Gauthier, S.F. and Bard, C.
Fractionation of casein hydrolysates using polysulfone ultrafiltration hollow fiber membranes 80 (1993) 257
Pouliot, Y. see Pouliot, M. 95 (1994) 125
Pouliot, Y. see Gourley, L. 97 (1994) 283
Pourcelly, G. see Tugas, I. 78 (1993) 25; 85 (1993) 183
Pourcelly, G. see Sandeaux, J. 84 (1993) 213
Pourcelly, G., Tugas, I. and Gavach, C.
Electrotransport of HCl in anion exchange membranes for the recovery of acids. Part II. Kinetics of ion transfer at the membrane–solution interface 85 (1993) 195
Pourcelly, G. see El Moussaoui, R. 90 (1994) 283
Pourcelly, G. see Chapotot, A. 96 (1994) 167
Pourcelly, G., Tugas, I. and Gavach, C.
Electrotransport of sulphuric acid in special anion exchange membranes for the recovery of acids 97 (1994) 99
Prabhakar, S. and Ramani, M.P.S.
A new concept of mass transfer coefficient in reverse osmosis — practical applications 86 (1993) 145
Prádanos, P., Arribas, J.I. and Hernández, A.
Mass transfer coefficient and retention of PEGs in low pressure cross-flow ultrafiltration through asymmetric membranes 99 (1995) 1
Prasad, R., Notaro, F. and Thompson, D.R.
Evolution of membranes in commercial air separation 94 (1994) 225
Price, W.E. see Zhao, H. 87 (1994) 47
Price, W.E. see Zhou, D. 98 (1995) 173
Price, W.E. see Mirmohseni, A. 100 (1995) 239
Puri, P.S. see Hsu, K.K. 79 (1993) 1

# Q

Quémerais, A. see Gésan, G. 80 (1993) 131
Qunhui, G., Ohya, H. and Negishi, Y.
Investigation of the permselectivity of chitosan membrane used in pervaporation separation II. Influences of temperature and membrane thickness 98 (1995) 223
Qunhui, G., Ohya, H., Xuejing, Y., Liankai, C. and Jicai, H.
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

# R

Rabago, R. see Pellegrino, J. 84 (1993) 161

Radke, C.J. see Markels, J.H. 86 (1993) 241
Raghuraman, B. see Larson, K. 91 (1994) 231
Rajalo, G., Tereping, O. and Petrovskaya, T.
Thermally forced membrane desorption–absorption of ammonia 89 (1994) 93
Raman, N.K. see Brinker, C.J. 77 (1993) 165
Ramani, M.P.S. see Prabhakar, S. 86 (1993) 145
Randon, J. see Vaija, P. 83 (1993) 173
Randon, J. see Elmaleh, S. 97 (1994) 127
Randon, J., Blanc, P. and Paterson, R.
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119
Rao, M.B. and Sircar, S.
Nanoporous carbon membranes for separation of gas mixtures by selective surface flow 85 (1993) 253
Rautenbach, R. and Welsch, K.
Treatment of landfill gas by gas permeation – pilot plant results and comparison to alternatives 87 (1994) 107
Rautenbach, R. and Helmus, F.P.
Some considerations on mass-transfer resistances in solution–diffusion-type membrane processes 87 (1994) 171
Raymond, P.C., Koros, W.J. and Paul, D.R.
Comparison of mixed and pure gas permeation characteristics for $CO_2$ and $CH_4$ in copolymers and blends containing methyl methacrylate units 77 (1993) 49
Reboiras, M.D.
Electrochemical properties of cellulosic ion-exchange membranes I. Equilibrium and permselectivity 92 (1994) 75
Reinhoudt, D.N. see Van Straaten-Nijenhuis, W.F. 82 (1993) 277
Reis, M.T.A. and Carvalho, J.M.R.
Recovery of zinc from an industrial effluent by emulsion liquid membranes 84 (1993) 201
Reisinger, H. and Marr, R.
Comparison of the separation of lactic acid and L-leucine by liquid emulsion membranes 80 (1993) 85
Reiss, H., Anderson, M.R. and Murphy, W.D.
Effect of inhomogeneous stress on the selectivity of membranes 88 (1994) 145
Renner, M. see Brinkert, L. 92 (1994) 131
Renzo, K. see Okuno, H. 83 (1993) 199
Rethwisch, D.G., Parida, S., Yi, G. and Dordick, J.S.
Use of alcohols as cosolvents in enzyme-facilitated transport of organic acids through a liquid membrane 95 (1994) 83
Reuss, M. see Bashir, I. 95 (1994) 229
Rezac, M.E., Le Roux, J.D., Chen, H., Paul, D.R. and Koros, W.J.
Effect of mild solvent post-treatments on the gas transport properties of glassy polymer membranes 90 (1994) 213
Rezac, M.E., Koros, W.J. and Miller, S.J.
Membrane-assisted dehydrogenation of *n*-butane Influence of membrane properties on system performance 93 (1994) 193
Richter, C. and Woermann, D.
Facilitated transport of ethene across polyelectrolyte gels with silver ions as a carrier 91 (1994) 217
Rigby, G.R. and Watson, H.C.
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159
Rios, G.M. see Sarrade, S. 97 (1994) 155
Rippin, D.W.T. see Ali, J.K. 89 (1994) 171
Robbertsen, T. see Brink, L.E.S. 76 (1993) 281
Robbertsen, T. see Timmer, J.M.K. 85 (1993) 205; 92 (1994) 185
Robinson, C.W., Siegel, M.H., Condemine, A., Fee, C., Fahidy, T.Z. and Glick, B.R.
Pulsed-electric-field crossflow ultrafiltration of bovine serum albumin 80 (1993) 209
Roček, J. and Uchytil, P.
Evaluation of selected methods for the characterisation of ceramic membranes 89 (1994) 119
Rudemann, K. and Staude, E.
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271
Rodgers, V.G.J. see Miller, K.D. 76 (1993) 77
Rodgers, V.G.J. and Sparks, R.E.
Effects of solution properties on polarization redevelopment and flux in pressure pulsed ultrafiltration 78 (1993) 163
Rodgers, V.G.J. and Miller, K.D.
Analysis of steric hindrance reduction in pulsed protein ultrafiltration 85 (1993) 39
Rodgers, V.G.J. see Oppenheim, S.F. 96 (1994) 289
Rohart, M.S. see Lamer, T. 90 (1994) 251
Rolandi, R. see Bottino, A. 95 (1994) 289
Ronald Kafchinski, E. see Chung, T.-S. 88 (1994) 21
Rosa, M.J. and De Pinho, M.N.
Separation of organic solutes by membrane pressure-driven processes 89 (1994) 235
Rosén, C. and Trägårdh, C.
Computer simulations of mass transfer in the concentration boundary layer over ultrafiltration membranes 85 (1993) 139
Ross, N. see Pouliot, M. 95 (1994) 125
Rossi, S. see Mita, D.G. 78 (1993) 69
Rothová, I. see Schlosser, Š. 80 (1993) 99
Rouilly, M.V., Kötz, E.R., Haas, O., Scherer, G.G. and Chapiró, A.
Proton exchange membranes prepared by simultaneous radiation grafting of styrene onto Teflon–FEP films. Synthesis and characterization 81 (1993) 89
Roux, R. see Langevin, D. 82 (1993) 51
Roux, R. see Selegny, E. 93 (1994) 217
Roy, S.V. see Diels, L. 100 (1995) 249
Ruckenstein, E. and Sun, F.
Optimization of the mechanical properties of polymeric composite membranes prepared via emulsion pathways 81 (1993) 191
Ruckenstein, E. see Sun, F. 85 (1993) 59; 90 (1994) 275; 99 (1995) 273
Ruckenstein, E. and Sun, F.
Anomalous sorption and pervaporation of aqueous organic mixtures by poly(vinyl acetal) membranes 95 (1994) 207
Ruiz-Bauzá, C. see Barragán, V.M. 95 (1994) 1
Russell Rhinehart, R. see Singh, V. 93 (1994) 203
Russo, P. see Mita, D.G. 78 (1993) 69
Ruthenberg, K. see Bode, E. 77 (1993) 69
Rzhevskii, A.M. see Mardilovich, P.P. 98 (1995) 131

# S


Sabol, H. see Wu, J.C.S. 96 (1994) 275
Sada, E. see Kumazawa, H. 93 (1994) 53; 97 (1994) 7
Saha, S. and Chakma, A.
Selective $CO_2$ separation from $CO_2/C_2H_6$ mixtures by immobilized diethanolamine/PEG membranes 98 (1995) 157
Saito, K. see Kobayashi, K. 76 (1993) 209
Saito, K. see Lee, W. 81 (1993) 295
Saito, K. see Kim, M. 85 (1993) 21
Saito, K. see Yamagishi, H. 85 (1993) 71
Saito, K. see Li, G.-Q. 95 (1994) 63
Sakai, K. see Kanamori, T. 88 (1994) 159
Sakai, K. see Yoshida, R. 89 (1994) 267
Sakai, K.
Determination of pore size and pore size distribution 2. Dialysis membranes 96 (1994) 91
Sakai, S. see Inokuma, S. 97 (1994) 175
Sakairi, T. see Sato, K. 100 (1995) 209
Sakaki, K. see Shinbo, T. 84 (1993) 241
Sakurai, Y. see Yoshida, R. 89 (1994) 267
Salem, R.R. see Timashev, S.F. 91 (1994) 249
Sanchez, V. see Gekas, V. 80 (1993) 73
Sanchez C., M.A. see Itoh, N. 77 (1993) 245
Sandeaux, J., Sandeaux, R., Pourcelly, G. and Molénat, J.
Desorption of counter-ions followed with labelled ions and water dissociation in perfluorinated quaternary ammonium membranes and Nafion 125 membranes 84 (1993) 213
Sandeaux, J., Fares, A., Sandeaux, R. and Gavach, C.
Transport properties of electrodialysis membranes in the presence of arginine I. Equilibrium properties of a cation exchange membrane in an aqueous solution of arginine chlorhydrate and sodium chloride 89 (1994) 73
Sandeaux, J. see Fares, A. 89 (1994) 83
Sandeaux, R. see Sandeaux, J. 84 (1993) 213; 89 (1994) 73
Sandeaux, R. see Fares, A. 89 (1994) 83
Sanderson, R.D. see Hurndall, M.J. 78 (1993) 283
Sanderson, R.D. see Linkov, V.M. 95 (1994) 93
Sano, T., Yanagishita, H., Kiyozumi, Y., Mizukami, F. and Haraya, K.
Separation of ethanol/water mixture by silicalite membrane on pervaporation 95 (1994) 221
Saracco, G., Versteeg, G.F. and Van Swaaij, W.P.M.
Current hurdles to the success of high-temperature membrane reactors 95 (1994) 105
Sarrade, S., Rios, G.M. and Carlès, M.
Dynamic characterization and transport mechanisms of two inorganic membranes for nanofiltration 97 (1994) 155
Sarrazin, J. see Alami-Younssi, S. 91 (1994) 87
Sarrazin, J. see Larbot, A. 97 (1994) 167
Sarti, G.C., Gostoli, C. and Bandini, S.
Extraction of organic components from aqueous streams by vacuum membrane distillation 80 (1993) 21
Sarti, G.C. see Doghieri, F. 91 (1994) 283
Sastre, A. see Dozol, J.F. 82 (1993) 237
Sata, T.
Properties of composite membranes prepared from ion exchange membranes and conducting polymers. II. Electrical potential generation from cell composed of a cation exchange membrane–polypyrrole composite membrane and a ferric ion form cation exchange membrane 82 (1993) 247
Sata, T., Ogura, S. and Kishimoto, F.
Properties of composite membranes from ion exchange membranes and conducting polymers. III. Changes in acid transport 84 (1993) 259
Sata, T.
Properties of composite membranes prepared from ion exchange membranes and conducting polymers V. Dependence of EMF of composite membranes prepared from anion exchange membranes and polypyrrole on relative humidity 91 (1994) 199
Sata, T.
Studies on ion exchange membranes with permselectivity for specific ions in electrodialysis 93 (1994) 117
Sata, T., Yamaguchi, T. and Matsusaki, K.
Interaction between anionic polyelectrolytes and anion exchange membranes and change in membrane properties 100 (1995) 229
Sato, K., Sakairi, T., Yonemoto, T. and Tadaki, T.
The desalination of a mixed solution of an amino acid and an inorganic salt by means of electrodialysis with charge-mosaic membranes 100 (1995) 209
Sato, Y. see Habata, Y. 85 (1993) 175
Satoh, M. see Huh, Y.-I. 81 (1993) 253
Savina, I.A. see Sidorova, M.P. 79 (1993) 159
Sawant, S.B. see Netke, S.A. 91 (1994) 163
Scamehorn, J.F. see Tabatabai, A. 100 (1995) 193
Schaetzel, P. see Xie, H.A. 81 (1993) 97
Schaetzel, P. see Favre, E. 92 (1994) 169
Schaule, G. see McDonogh, R. 87 (1994) 199
Scherer, G.G. see Rouilly, M.V. 81 (1993) 89
Schlosser, Š., Rothová, I. and Frianová, H.
Hollow-fibre pertractor with bulk liquid membrane 80 (1993) 99
Schmitz, P., Wandelt, B., Houi, D. and Hildenbrand, M.
Particle aggregation at the membrane surface in crossflow microfiltration 84 (1993) 171
Schneider, P. and Uchytil, P.
Liquid expulsion permporometry for characterization of porous membranes 95 (1994) 29
Schneider, R.P. see Hodgson, P.H. 79 (1993) 35
Schofield, R.W. see Costello, M.J. 80 (1993) 1
Schroën, C.G.P.H., Wijers, M.C., Cohen-Stuart, M.A., Van der Padt, A. and Van 't Riet, K.
Membrane modification to avoid wettability changes due to protein adsorption in an emulsion/membrane bioreactor 80 (1993) 265
Schultze, J.D. see Glatz, F.P. 90 (1994) 151
Scott, K.
Membrane reactors for electrochemical synthesis processes 90 (1994) 161
Seen, A.J. see Bagnell, L. 85 (1993) 291

Seen, A.J., Cavell, K.J., Mau, A.W.-H. and Hodges, A.M.
Nafion supported cationic palladium complexes as catalysts 87 (1994) 149
Sehgal, R. see Brinker, C.J. 77 (1993) 165; 94 (1994) 85
Sekimoto, T. see Igawa, M. 98 (1995) 177
Sekino, M.
Precise analytical model of hollow fiber reverse osmosis modules 85 (1993) 241
Sélégny, E. see Langevin, D. 82 (1993) 51
Selegny, E., Ghogomu, J.N., Roux, R., Langevin, D. and Métayer, M.
Carrier-mediated, thermal energy coupled, non-isothermal membrane transport Part 1. Transfer of the solute boric acid 93 (1994) 217
Semernikov, V.A. see Sigal, V.L. 81 (1993) 263
Semin, G.L. see Ilinich, O.M. 86 (1993) 37
Semmens, M.J. see Wickramasinghe, S.R. 84 (1993) 1
Seno, M. see Ino, M. 89 (1994) 101
Seta, P. see Garaud, J.L. 91 (1994) 259
Sewalt, J.J.W. see Van der Padt, A. 80 (1993) 199
Shamsipur, M. see Dadfarnia, S. 78 (1993) 115
Shamsipur, M. see Parham, H. 86 (1993) 29; 95 (1994) 21
Sharghi, H. see Dadfarnia, S. 78 (1993) 115
Sharma, S.K. and Goswami, A.N.
Dearomatisation of a refinery kerosene by liquid surfactant membranes – prediction of extraction rates 88 (1994) 69
Shataeva, L.K. see Denisov, G.A. 79 (1993) 211; 98 (1995) 13
Shaw, M. see Simons, R. 78 (1993) 63
Shelekhin, A.B., Dixon, A.G. and Ma, Y.H.
Adsorption, diffusion and permeation of gases in microporous membranes. III. Application of percolation theory to interpretation of porosity, tortuosity, and surface area in microporous glass membranes 83 (1993) 181
Sheng, J.
Pilot scale brine concentration process using membrane pervaporation 87 (1994) 131
Sherman, N.E. see Mackley, M.R. 77 (1993) 113
Shevchuk, I. see Dinh, S.M. 89 (1994) 245
Shibata, M. see Ohya, H. 90 (1994) 91
Shimidzu, T. see Yoshikawa, M. 82 (1993) 157
Shimomura, T. see Matsuyama, H. 92 (1994) 107
Shinbo, T., Yamaguchi, T., Yanagishita, H., Sakaki, K., Kitamoto, D. and Sugiura, M.
Supported liquid membranes for enantioselective transport of amino acid mediated by chiral crown ether – effect of membrane solvent on transport rate and membrane stability 84 (1993) 241
Shojaie, S.S., Greenberg, A.R. and Krantz, W.B.
Use of an electric field to alter membrane morphology in a polysulfone–polyvinylpyrrolidone blend 79 (1993) 115
Shojaie, S.S. see Paulsen, F.G. 91 (1994) 265
Shojaie, S.S., Krantz, W.B. and Greenberg, A.R.
Dense polymer film and membrane formation via the dry-cast process Part I. Model development 94 (1994) 255
Shojaie, S.S., Krantz, W.B. and Greenberg, A.R.
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281
Shtereva, G. see Volchek, K. 79 (1993) 253
Shu, J., Grandjean, B.P.A., Ghali, E. and Kaliaguine, S.
Simultaneous deposition of Pd and Ag on porous stainless steel by electroless plating 77 (1993) 181
Sidorova, M.P., Ermakova, L.E., Savina, I.A. and Fridrikhsberg, D.A.
Electrochemistry of weakly charged membranes 79 (1993) 159
Siegel, M.H. see Robinson, C.W. 80 (1993) 209
Sigal, V.L., Ponomarev, V.L., Semernikov, V.A. and Volfkovich, Yu.M.
Structural characteristics of a macroporous membrane used for HBs antigen removal 81 (1993) 263
Si-Hassen, D. see Benkahla, Y.K. 98 (1995) 107
Sikdar, S.K. see Ji, W. 93 (1994) 1; 97 (1994) 109
Simons, R. and Dickson, M.R.
Characterisation of Pall RAI charged microporous membranes 76 (1993) 73
Simons, R.
Preparation of a high performance bipolar membrane 78 (1993) 13
Simons, R., Zuccon, J., Dickson, M.R. and Shaw, M.
Pervaporation and evaporation characteristics of a new type of ion exchange membrane 78 (1993) 63
Simons, R.
A mechanism for water flow in bipolar membranes 82 (1993) 65
Simpson, M.P.J. see Broom, G.P. 87 (1994) 219
Singh, A. see Singh, K. 82 (1993) 141
Singh, K. and Singh, A.
Membrane potential and solute separation studies on zirconium phosphate membranes 82 (1993) 141
Singh, R.
Polyamide polymer solution behaviour under chlorination conditions 88 (1994) 285
Singh, S.N. see Upadhyay, S. 93 (1994) 149
Singh, V. and Russell Rhinehart, R.
On membrane transport analysis 93 (1994) 203
Sircar, S. see Rao, M.B. 85 (1993) 253
Sirkar, K.K. see Papadopoulos, T. 94 (1994) 163
Sisto, R., Bonfanti, C. and Valentini, C.
Structure and gas permeability of alkynylated poly(phenylene oxide) 95 (1994) 135
Skyllas-Kazacos, M. see Mohammadi, T. 98 (1995) 77
Smit, J.A.M. see Hijnen, H.J.M. 99 (1995) 285
Smith, B.F. see Kathios, D.J. 97 (1994) 251
Smith, D.M. see Brinker, C.J. 77 (1993) 165; 94 (1994) 85
Smith, G.W. see Wu, J.C.S. 96 (1994) 275
Smolders, C.A. see Wienk, I.M. 78 (1993) 93
Smolders, C.A. see Kreulen, H. 78 (1993) 197, 217; 82 (1993) 185
Smolders, C.A. see Duval, J.-M. 80 (1993) 189
Smolders, C.A. see Koops, G.H. 81 (1993) 57
Smolders, C.A. see Te Hennepe, H.J.C. 89 (1994) 185
Smolders, C.A. see Boom, R.M. 90 (1994) 231
Smolders, C.A. see Park, H.C. 90 (1994) 265
Smolders, C.A. see Li, S.-G. 94 (1994) 329
Smolders, C.A. see Broek, A.P. 99 (1995) 217
Sobey, I.J. see Millward, H.R. 100 (1995) 121

Somers, K. see Diels, L. 100 (1995) 249
Song, S.-W. and Torkelson, J.M.
Coarsening effects on the formation of microporous membranes produced via thermally induced phase separation of polystyrene–cyclohexanol solutions 98 (1995) 209
Soria, R. see Bottino, A. 95 (1994) 289
Soriano, E. see Torres, M.R. 81 (1993) 31
Sourirajan, S. see Bouchard, C.R. 97 (1994) 215
Sourirajan, S. see Tabe Mohammadi, A. 98 (1995) 281
Sparks, R.E. see Rodgers, V.G.J. 78 (1993) 163
Spiazzi, E., Lenoir, J. and Grangeon, A.
A new generator of unsteady-state flow regime in tubular membranes as an anti-fouling technique: A hydrodynamic approach 80 (1993) 49
Spiering, W. see Enoch, G.D. 87 (1994) 191
Sprengers, E.D. see Broek, A.P. 99 (1995) 217
Springael, D. see Diels, L. 100 (1995) 249
Springer, J. see Glatz, F.P. 90 (1994) 151
Squires, R.C. see Broom, G.P. 87 (1994) 219
Srinivasan, R., Auvil, S.R. and Burban, P.M.
Elucidating the mechanism(s) of gas transport in poly[1-(trimethylsilyl)-1-propyne] (PTMSP) membranes 86 (1993) 67
Srivastava, R.C. see Upadhyay, S. 93 (1994) 149
Srivastava, R.C. see Varghese, V.A. 93 (1994) 229
Srivastava, R.K. see Jain, A.K. 78 (1993) 53
Sroka, Z.
The activity of lipase from *Rhizopus* sp. in native form and after immobilization on hollow-fiber membranes 97 (1994) 209
Stanish, I. see Van Zanten, J.H. 99 (1995) 49
Starov, V.M.
A model and mathematical representation for membrane concentration and purification of macromolecular solutions containing low molecular weight contaminants 79 (1993) 241
Starov, V.M. see Filippov, A. 89 (1994) 199
Staude, E. see Düputell, D. 78 (1993) 45
Staude, E. see Rodemann, K. 88 (1994) 271
Stephan, W. see Heintz, A. 89 (1994) 143, 153
Stephan, W., Noble, R.D. and Koval, C.A.
Design methodology for a membrane/distillation column hybrid process 99 (1995) 259
Stern, S.A., Charati, S.G. and Onurval, N.
Solubility of gases and vapors in biological media: a simple correlation 76 (1993) 89
Stern, S.A. see Mi, Y. 77 (1993) 41
Stern, S.A. see Bhide, B.D. 81 (1993) 209, 239
Stern, S.A. see Houde, A.Y. 92 (1994) 95
Stern, S.A.
Polymers for gas separations: the next decade 94 (1994) 1
Stevens, P.V. see Kim, K.-J. 93 (1994) 79
Stoicheva, R.N. see Islam, M.A. 92 (1994) 209
Stone, M.L. see Peterson, E.S. 86 (1993) 57
Strathmann, H. see Broek, A.P. 99 (1995) 217
Strugatskaya, A.J. see Timashev, S.F. 91 (1994) 249
Süer, M.G., Baç, N. and Yilmaz, L.
Gas permeation characteristics of polymer–zeolite mixed matrix membranes 91 (1994) 77
Sugiura, M. see Shinbo, T. 84 (1993) 241
Sugo, T. see Kobayashi, K. 76 (1993) 209
Sugo, T. see Lee, W. 81 (1993) 295
Sugo, T. see Kim, M. 85 (1993) 21
Sugo, T. see Yamagishi, H. 85 (1993) 71
Sugo, T. see Li, G.-Q. 95 (1994) 63
Sumi, K., Kimura, M., Kokufuta, E. and Nakamura, I.
Selective uphill transport of cyanide ion mediated by tetraphenylporphinatomanganese(III) complex through bulk and polymer-supported liquid membranes 86 (1993) 155
Sun, F. see Ruckenstein, E. 81 (1993) 191; 95 (1994) 207
Sun, F. and Ruckenstein, E.
Separation of water–ethanol mixtures by pervaporation through composite membranes prepared by concentrated emulsion polymerization: Improvement of the permeation rate with a porogen 85 (1993) 59
Sun, F. and Ruckenstein, E.
Membranes of block copolymer–poly(divinylbenzene) blends for the pervaporation of alcohol/water mixtures 90 (1994) 275
Sun, F. and Ruckenstein, E.
Sorption and pervaporation of benzene–cyclohexane mixtures through composite membranes prepared via concentrated emulsion polymerization 99 (1995) 273
Sun, P. see Kim, K.-J. 80 (1993) 241
Sundet, S.A.
Morphology of the rejecting surface of aromatic polyamide membranes for desalination 76 (1993) 175
Sung, K.C. and Topp, E.M.
Swelling properties of hyaluronic acid ester membranes 92 (1994) 157
Suzuki, T. see Kobayashi, T. 86 (1993) 47
Suzuki, T., Kiyono, R. and Tasaka, M.
Solvent transport across anion-exchange membranes under a temperature difference and transported entropy of water 92 (1994) 85
Swaaij, W.P.M. see Kreulen, H. 82 (1993) 185
Swart, A.F., Brouckaert, C.J. and Buckley, C.A.
Criteria for selecting the operating regime of the crossflow microfilter or the tubular filter press for clarification of turbid waters 87 (1994) 57
Szpakowska, M. and Nagy, O.B.
Non-steady state vs. steady state kinetic analysis of coupled ion transport through binary liquid membranes 76 (1993) 27
Szpakowska, M.
Investigation of the rate-limiting step of coupled copper ion transport through liquid membranes by means of variable speed experiments 90 (1994) 101
Szpakowska, M.
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

# T

Tabata, F. see Kono, K. 76 (1993) 233
Tabatabai, A., Scamehorn, J.F. and Christian, S.D.
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193
Tabe Mohammadi, A. see Khulbe, K.C. 98 (1995) 201
Tabe Mohammadi, A., Matsuura, T. and Sourirajan, S.
Design and construction of gas permeation system for the measurement of low permeation rates and permeate compositions 98 (1995) 281
Tadaki, T. see Sato, K. 100 (1995) 209
Tagawa, M. see Takagi, R. 92 (1994) 229
Tai, M.S.L. see Li, K. 86 (1993) 119
Tai, M.S.L., Chua, I., Li, K., Ng, W.J. and Teo, W.K.
Removal of dissolved oxygen in ultrapure water production using microporous membrane modules 87 (1994) 99
Takagi, R., Tagawa, M., Gotoh, K. and Nakagaki, M.
Variation of membrane charge of nylon 6 with pH 92 (1994) 229
Takagishi, T. see Kono, K. 76 (1993) 233
Takahashi, M. see Gotō, A. 99 (1995) 107
Takai, N. see Lin, M.-C. 88 (1994) 77
Takeda, T. see Nonaka, T. 76 (1993) 193
Takeuchi, H. see Nii, S. 93 (1994) 245
Tam, C.M., Dal-Cin, M. and Guiver, M.D.
Polysulfone membranes. IV. Performance evaluation of Radel A/PVP membranes 78 (1993) 123
Tam, C.M. see Pellerin, E. 100 (1995) 139
Tamaddon, F. see Dadfarnia, S. 78 (1993) 115
Tan, C.-S. see Hsu, J.-H. 81 (1993) 273
Tanaka, K. see Kita, H. 87 (1994) 139
Tanaka, K. see Tanihara, N. 95 (1994) 161
Tanaka, Y., Iwahashi, M. and Kogure, M.
Distribution of electrodialytic condition in an electrodialyzer and limiting current density 92 (1994) 217
Tandon, A., Gupta, S.K. and Agarwal, G.P.
Modelling of protein transmission through ultrafiltration membranes 97 (1994) 83
Tang, C. see Gu, Z. 93 (1994) 137
Tanihara, N., Tanaka, K., Kita, H. and Okamoto, K.
Pervaporation of organic liquid mixtures through membranes of polyimides containing methyl-substituted phenylenediamine moieties 95 (1994) 161
Tanimura, S., Nakao, S. and Kimura, S.
Transport equation for a membrane based on a frictional model 84 (1993) 79
Tasaka, M. see Hanaoka, K. 82 (1993) 255
Tasaka, M. see Suzuki, T. 92 (1994) 85
Te Hennepe, H.J.C., Boswerger, W.B.F., Bargeman, D., Mulder, M.H.V. and Smolders, C.A.
Zeolite-filled silicone rubber membranes Experimental determination of concentration profiles 89 (1994) 185
Tekić, M.N., Paunović, R.N. and Ćirić, G.M.
Applicability of two membranes for improving performance of a membrane reactor 96 (1994) 213
Te Nijenhuis, K. see Janssen, L.J.J.M. 79 (1993) 11
Teo, W.K. see Li, K. 78 (1993) 181; 86 (1993) 119
Teo, W.K. see Tai, M.S.L. 87 (1994) 99
Teo, W.K. see Wang, D. 98 (1995) 233
Teplyakov, V.V. see Le Roux, J.D. 90 (1994) 55
Teramoto, M. see Matsuyama, H. 88 (1994) 85; 92 (1994) 107, 257; 93 (1994) 237; 99 (1995) 139
Teramoto, M., Matsuyama, H., Nakai, K., Uesaka, T. and Ohnishi, N.
Facilitated uphill transport of eicosapentaenoic acid ethyl ester through bulk and supported liquid membranes containing silver nitrate as carrier: a new type of uphill transport 91 (1994) 209
Tereping, O. see Rajalo, G. 89 (1994) 93
Tessaro, I.C. see Kim, K.J. 87 (1994) 35
Teunis, H.A. see Wienk, I.M. 78 (1993) 93
Teunis, H.A. see Broek, A.P. 99 (1995) 217
Theile, V. see Hamann, C.H. 78 (1993) 147
Theimer, F. see Klein, E. 95 (1994) 199
Thompson, D.R. see Prasad, R. 94 (1994) 225
Thorogood, R.M. see Hsu, K.K. 79 (1993) 1
Thummel, R.P. see Van Straaten-Nijenhuis, W.F. 82 (1993) 277
Timashev, S.F., Valuev, V.V., Vorobiev, A.V., Salem, R.R. and Strugatskaya, A.J.
Pervaporation induced by electric current 91 (1994) 249
Timmer, J.M.K., Van der Horst, H.C. and Robbertsen, T.
Transport of lactic acid through reverse osmosis and nanofiltration membranes 85 (1993) 205
Timmer, J.M.K., Kromkamp, J. and Robbertsen, T.
Lactic acid separation from fermentation broths by reverse osmosis and nanofiltration 92 (1994) 185
Timofeyev, S. see Berezina, N. 86 (1993) 207
Tishchenko, G.A. see Denisov, G.A. 79 (1993) 211; 98 (1995) 13
Togami, N. see Ohya, H. 97 (1994) 91
Tokunaga, H. see Ohya, H. 84 (1993) 185
Tokunaga, H. see Higashijima, T. 93 (1994) 165
Tomaszewska, M.
Concentration of the extraction fluid from sulfuric acid treatment of phosphogypsum by membrane distillation 78 (1993) 277
Tomaszewska, M.
An experimental study of isothermal and non-isothermal phenomena in a hydrophobic–hydrophilic membrane system 88 (1994) 223
Tomicki, B.
Thermostatics of membrane equilibria 89 (1994) 279
Tomizawa, S. see Aoki, T. 99 (1995) 117
Topp, E.M. see Sung, K.C. 92 (1994) 157
Torkelson, J.M. see Song, S.-W. 98 (1995) 209
Torres, M.R., Soriano, E., De Abajo, J. and De la Campa, J.G.
Comparative study of the behaviour of experimental polyamide UF membranes. The effect of polyvinylpyrrolidone used as an additive 81 (1993) 31
Tou, J.C. see LaPack, M.A. 86 (1993) 263
Trägårdh, C. see Rosén, C. 85 (1993) 139

Trägårdh, G. see Persson, K.M. 76 (1993) 51, 61; 93 (1994) 165; 100 (1995) 155
Trägårdh, G. see Karlsson, H.O.E. 76 (1993) 121; 81 (1993) 163; 91 (1994) 189
Trägårdh, G. see Gekas, V. 80 (1993) 73
Trägårdh, G. see Dutré, B. 90 (1994) 191; 92 (1994) 141
Trocha, M. and Koros, W.J.
A diffusion-controlled procedure to close pores in ceramic membranes 95 (1994) 259
Trohalaki, S. see Mi, Y. 77 (1993) 41
Trystram, G. see Dornier, M. 98 (1995) 263
Tsai, F.-N. see Ho, C.-C. 81 (1993) 287
Tsai, F.-N. see Jan, D.-S. 90 (1994) 109
Tsai, S.-W., Wen, C.-L., Chen, J.-L. and Wu, C.-S.
Protein extractions by supported liquid membrane with reversed micelles as carriers 100 (1995) 87
Tsapatsis, M. and Gavalas, G.
Structure and aging characteristics of $H_2$-permselective $SiO_2$–Vycor membranes 87 (1994) 281
Tsapiuk, E.A. and Bryk, M.T.
An interpretation of the separation of low and high molecular weight solutes by ultrafiltration 79 (1993) 227
Tsotsis, T.T. see Ziaka, Z.D. 77 (1993) 221
Tsuchiya, Y. see Ohya, H. 84 (1993) 185
Tsuchiya, Y. see Higashijima, T. 93 (1994) 165
Tsugaya, H. see Yoshikawa, M. 82 (1993) 157
Tsuneda, S. see Kobayashi, K. 76 (1993) 209
Tsuru, T. and Hwang, S.-T.
Evaluation of retentate recycle effect on enrichment of less permeable gas component in a membrane permeator 94 (1994) 213
Tsuru, T. and Hwang, S.-T.
Permeators and continuous membrane columns with retentate recycle 98 (1995) 57
Tugas, I., Lambert, J.M., Maillols, J., Bribes, J.L., Pourcelly, G. and Gavach, C.
Identification of the ionic species in anion exchange membranes equilibrated with sulphuric acid solutions by means of Raman spectroscopy and radiotracers 78 (1993) 25
Tugas, I., Pourcelly, G. and Gavach, C.
Electrotransport of protons and chloride ions in anion exchange membranes for the recovery of acids. Part I. Equilibrium properties 85 (1993) 183
Tugas, I. see Pourcelly, G. 85 (1993) 195; 97 (1994) 99
Türker, L. see Eroğlu, I. 86 (1993) 171

# U

Uchida, K. see Habata, Y. 85 (1993) 175
Uchida, K. see Itoh, N. 92 (1994) 239
Uchytil, P. see Roček, J. 89 (1994) 119
Uchytil, P. see Schneider, P. 95 (1994) 29
Uchytil, P.
Gas permeation in ceramic membranes Part I. Theory and testing of ceramic membranes 97 (1994) 139
Uchytil, P. and Brož, Z.
Gas permeation in ceramic membranes Part II. Modeling of gas permeation through ceramic membrane with one supported layer 97 (1994) 145
Uesaka, T. see Teramoto, M. 91 (1994) 209
Uezu, K. see Goto, M. 96 (1994) 299
Upadhyay, S., Varghese, V.A., Mishra, L., Singh, S.N. and Srivastava, R.C.
Carrier-mediated transport through liquid membranes Studies on transport of nickel, cadmium and lead ions using tetradentate oxoiminato Schiff base ligands as carriers 93 (1994) 149
Upadhyay, S. see Varghese, V.A. 93 (1994) 229
Uragami, T. see Okuno, H. 83 (1993) 199
Uragami, T., Matsuda, T., Okuno, H. and Miyata, T.
Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

# V

Vadalia, H.C., Lee, H.K., Myerson, A.S. and Levon, K.
Thermally induced phase separation in ternary crystallizable polymer solutions 89 (1994) 37
Vadgama, P.M. see Koochaki, Z. 76 (1993) 261
Vaidya, A.M., Bell, G. and Halling, P.J.
Aqueous–organic membrane bioreactors Part II. Breakthrough pressure measurement 97 (1994) 13
Vaija, P., Randon, J., Larbot, A. and Cot, L.
Prediction of the flux through an ultrafiltration membrane using fuzzy mathematics 83 (1993) 173
Valentini, C. see Doghieri, F. 91 (1994) 283
Valentini, C. see Sisto, R. 95 (1994) 135
Valiente, M. see Moreno, C. 81 (1993) 121
Valiente, M. see Palet, C. 98 (1995) 241
Valuev, V.V. see Timashev, S.F. 91 (1994) 249
Vandecasteele, C. see Goethaert, S. 78 (1993) 135
Van den Boomgaard, T. see Li, S.-G. 94 (1994) 329
Van den Boomgaard, Th. see Boom, R.M. 90 (1994) 231
Van den Broeke, W.F. see Enoch, G.D. 87 (1994) 191
Van der Horst, H.C. see Timmer, J.M.K. 85 (1993) 205
Van der Linden, M. see Wessling, M. 86 (1993) 193
Van der Linden, W.E. see Wessling, M. 86 (1993) 193
Van der Padt, A., Sewalt, J.J.W. and Van 't Riet, K.
On-line water removal during enzymatic triacylglycerol synthesis by means of pervaporation 80 (1993) 199

Van der Padt, A. see Schroën, C.G.P.H. 80 (1993) 265
Van der Welle, R. see Feron, P. 80 (1993) 157
Van Heuven, J.W. see Feron, P. 80 (1993) 157
Van Straaten-Nijenhuis, W.F., Jong, F.d., Reinhoudt, D.N., Thummel, R.P., Bell, T.W. and Liu, J.
Urea transport through supported liquid membranes using synthetic carriers 82 (1993) 277
Van Swaaij, W.P.M. see Kreulen, H. 78 (1993) 197, 217
Van Swaaij, W.P.M. see Veldsink, J.W. 92 (1994) 275
Van Swaaij, W.P.M. see Saracco, G. 95 (1994) 105
Van 't Hoff, J.H.
The role of osmotic pressure in the analogy between solutions and gases 100 (1995) 39
Van 't Riet, K. see Van der Padt, A. 80 (1993) 199
Van 't Riet, K. see Schroën, C.G.P.H. 80 (1993) 265
Van Zanten, J.H., Chang, D.S.-W., Stanish, I. and Monbouquette, H.G.
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49
Varghese, V.A. see Upadhyay, S. 93 (1994) 149
Varghese, V.A., Upadhyay, S. and Srivastava, R.C.
Carrier-mediated transport through liquid membranes Studies on transport of cadmium ions using sodium lauryl sulphate reversed micelles as carriers 93 (1994) 229
Vašák, F. and Brož, Z.
A method for determination of gas diffusion and solubility coefficients in poly(vinyltrimethylsilane) using a personal computer 82 (1993) 265
Vašák, F. see Nguyen, X.Q. 91 (1994) 65
Vasileva, N. see Godjevargova, T. 88 (1994) 279
Vasilyev, A.B. see Mchedlishvili, B.V. 79 (1993) 285
Vassilieff, C.S.
An elliptic filtration variation on Poiseuille-type laminar solutions of Navier–Stokes equations 91 (1994) 153
Velázquez, A. see Mengual, J.I. 82 (1993) 129
Veldsink, J.W., Versteeg, G.F. and Van Swaaij, W.P.M.
An experimental study of diffusion and convection of multicomponent gases through catalytic and non-catalytic membranes 92 (1994) 275
Vernon Edge, A. see Ash, R. 76 (1993) 1
Versteeg, G.F. see Kreulen, H. 78 (1993) 197, 217; 82 (1993) 185
Versteeg, G.F. see Veldsink, J.W. 92 (1994) 275
Versteeg, G.F. see Saracco, G. 95 (1994) 105
Vetchinova, Yu.S. see Ilinich, O.M. 86 (1993) 37
Vilensky, A.I. see Mchedlishvili, B.V. 79 (1993) 285
Voilley, A. see Lamer, T. 90 (1994) 251
Voilley, A. see Debeaufort, F. 91 (1994) 125
Volchek, K., Krentsel, E., Zhilin, Yu., Shtereva, G. and Dytnersky, Yu.
Polymer binding/ultrafiltration as a method for concentration and separation of metals 79 (1993) 253
Volfkovich, Yu.M. see Sigal, V.L. 81 (1993) 263
Volkov, V.I., Korotchkova, S.A., Ohya, H. and Guo, Q.
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273
Vonk, P. see Wesselingh, J.A. 99 (1995) 21
Von Meien, O.F. and Nobrega, R.
Ultrafiltration model for partial solute rejection in the limiting flux region 95 (1994) 277
Vora, R. see Chung, T.-S. 88 (1994) 21
Vorobiev, A.V. see Timashev, S.F. 91 (1994) 249
Vovkogon, Yu.A. see Yaroshchuk, A.E. 86 (1993) 1, 19

# W

Wakeman, R.J. see Akay, G. 88 (1994) 177
Wakeman, R.J. and Akay, G.
Flux decay and rejection during micro- and ultra-filtration of hydrophobically modified water-soluble polymers 91 (1994) 145
Walker, D.R.B. see Costello, L.M. 90 (1994) 117
Wallace, G.G. see Zhao, H. 87 (1994) 47
Wallace, G.G. see Zhou, D. 98 (1995) 173
Wallace, G.G. see Mirmohseni, A. 100 (1995) 239
Walsh, A.J. and Monbouquette, H.G.
Extraction of $Cd^{2+}$ and $Pb^{2+}$ from dilute aqueous solution using metal-sorbing vesicles in a hollow-fiber cartridge 84 (1993) 107
Walter, R.P. see Campbell, M.J. 78 (1993) 35
Wan, C., Noble, R.D. and Clark, N.A.
Use of polar solvents in an electroconvective liquid membrane for gas separation 84 (1993) 191
Wandelt, B. see Schmitz, P. 84 (1993) 171
Wang, D. see Pellegrino, J. 84 (1993) 161
Wang, D., Li, K. and Teo, W.K.
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233
Wang, J.-S. see Kumazawa, H. 93 (1994) 53
Wang, J.-S. and Kamiya, Y.
Concurrent measurements of sorption and dilation isotherms and diffusivity for polysulfone membrane/carbon dioxide system 98 (1995) 69
Wang, K.L. and Cussler, E.L.
Baffled membrane modules made with hollow fiber fabric 85 (1993) 265
Wang, S. see Mok, S. 100 (1995) 183
Wang, S.C. see Xu, S.C. 97 (1994) 1
Wang, S.S. see Chan, C.C. 76 (1993) 219
Wang, Y., Howell, J.A., Field, R.W. and Wu, D.
Simulation of cross-flow filtration for baffled tubular channels and pulsatile flow 95 (1994) 243
Wang, Y.X. see Xu, S.C. 97 (1994) 1
Waniewski, J.
Linear approximations for the description of solute flux through permselective membranes 95 (1994) 179

Wano, T. see Yoshikawa, M. 76 (1993) 255; 89 (1994) 23
Ward, T.L. see Brinker, C.J. 77 (1993) 165
Warszawski, A. see Narębska, A. 88 (1994) 167
Watson, H.C. see Rigby, G.R. 87 (1994) 159
Wei, Y. and Huang, R.Y.M.
Pervaporation with latex membranes. I. Latex membrane preparation and characterization 82 (1993) 27
Wei, Y. see Huang, R.Y.M. 87 (1994) 257; 89 (1994) 9
Weichart, J. and Müller, J.
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87
Weitzel, S. see Miller, K.D. 76 (1993) 77
Welsch, K. see Rautenbach, R. 87 (1994) 107
Welsch, K., Mc Donogh, R.M., Fane, A.G. and Fell, C.J.D.
Calculation of limiting fluxes in the ultrafiltration of colloids and fine particulates 99 (1995) 229
Wen, C.-L. see Tsai, S.-W. 100 (1995) 87
Wesselingh, J.A. and Vonk, P.
Ultrafiltration of a large polyelectrolyte 99 (1995) 21
Wessling, M., Mulder, M.H.V., Bos, A., Van der Linden, M., Bos, M. and Van der Linden, W.E.
Modelling the permeability of polymers: a neural network approach 86 (1993) 193
Wettling, D. see Lacan, P. 100 (1995) 99
White, D.A., Canales, R. and Le, Q.T.
Membrane plants of modular design for diffusion controlled gas separations 87 (1994) 297
Whitmore, R.S. see McGinniss, V.D. 98 (1995) 27
Whitworth, T.M., Mariñas, B.J. and Fritz, S.J.
Isotopic fractionation and overall permeation of lithium by a thin-film composite polyamide reverse osmosis membrane 88 (1994) 231
Wickramasinghe, S.R., Semmens, M.J. and Cussler, E.L.
Hollow fiber modules made with hollow fiber fabric 84 (1993) 1
Wieczorek, P., Kocorek, A., Bryjak, M., Kafarski, P. and Lejczak, B.
Transport of dipeptides and phosphono dipeptides through an immobilized liquid membrane. Stereoselectivity of the process 78 (1993) 83
Wieczorek, P. see Bryjak, M. 85 (1993) 221
Wiencek, J. see Larson, K. 91 (1994) 231
Wienk, I.M., Teunis, H.A., Boomgaard, T.v.d. and Smolders, C.A.
A new spinning technique for hollow fiber ultrafiltration membranes 78 (1993) 93
Wiesner, M.R. see Nazzal, F.F. 93 (1994) 91
Wijers, M.C. see Schroën, C.G.P.H. 80 (1993) 265
Wijmans, J.G. and Baker, R.W.
A simple predictive treatment of the permeation process in pervaporation 79 (1993) 101
Wiley, D.E. see Da Costa, A.R. 76 (1993) 245; 87 (1994) 79
Wiley, D.E. see Kim, K.-J. 80 (1993) 241
Willems, I. see Diels, L. 100 (1995) 249
Willits, J.T. see Miranda, N.R. 94 (1994) 67
Wimmerstedt, R. see Larsson, A.C. 84 (1993) 139
Winzeler, H.B. and Belfort, G.
Enhanced performance for pressure-driven membrane processes: the argument for fluid instabilities 80 (1993) 35
Woermann, D. see Richter, C. 91 (1994) 217
Wojcicki, J. see Legallais, C. 91 (1994) 97
Worsfold, D.J. see Mok, S. 100 (1995) 183
Wright, K.I.T. see Cui, Z.F. 90 (1994) 183
Wu, C.-S. see Tsai, S.-W. 100 (1995) 87
Wu, D. see Howell, J.A. 80 (1993) 59
Wu, D. see Wang, Y. 95 (1994) 243
Wu, D. see Field, R.W. 100 (1995) 259
Wu, G. see Gronowski, A.A. 82 (1993) 83
Wu, J.C.S., Flowers, D.F. and Liu, P.K.T.
High-temperature separation of binary gas mixtures using microporous ceramic membranes 77 (1993) 85
Wu, J.C.S., Sabol, H., Smith, G.W., Flowers, D.L. and Liu, P.K.T.
Characterization of hydrogen-permselective microporous ceramic membranes 96 (1994) 275
Wu, L.-G., Zhu, C.-L. and Liu, M.
Study of a new pervaporation membrane Part 1. Preparation and characteristics of the new membrane 90 (1994) 199
Wu, L.-G., Zhu, C.-L. and Liu, M.
Study of a new pervaporation membrane Part 2. Performance test and analysis of the new membrane 90 (1994) 207
Wu, P. and Gaylor, J.D.S.
A model of water vapour transmission in hydrocolloid wound dressings 97 (1994) 27
Wu, Q. see Gu, Z. 93 (1994) 137
Wu, T.-H. see Itoh, N. 99 (1995) 175

# X

Xie, H.A., Nguyen, Q.T., Schaetzel, P. and Néel, J.
Dehydration of amines and diamines by pervaporation with ionomer and PVA-based membranes 81 (1993) 97
Xu , J. see Zhang , Y. 80 (1993) 297
Xu, J. see Lin, X. 90 (1994) 81
Xu, P. see Matsumoto, K. 81 (1993) 15, 23
Xu, R. see Chen, H. 95 (1994) 11
Xu, S.C., Wang, Y.X. and Wang, S.C.
Transport mode of membrane distillation process and the VMD method to determine the membrane configurational number 97 (1994) 1
Xu, W.-C. see Itoh, N. 77 (1993) 245
Xuejing, Y. see Qunhui, G. 100 (1995) 217
Xuesong, G., Zhoushi, T. and Fengcai, L.
Gas permeation properties of some polypyrrolones 88 (1994) 37

# Y

Yamada, K. see Goto, M. 96 (1994) 299
Yamagishi, H. see Kobayashi, K. 76 (1993) 209
Yamagishi, H., Saito, K., Furusaki, S., Sugo, T., Hosoi, F. and Okamoto, J.
Molecular weight distribution of methyl methacrylate grafted onto a microfiltration membrane by radiation-induced graft polymerization 85 (1993) 71
Yamaguchi, T. see Shinbo, T. 84 (1993) 241
Yamaguchi, T., Yamahara, S., Nakao, S. and Kimura, S.
Preparation of pervaporation membranes for removal of dissolved organics from water by plasma-graft filling polymerization 95 (1994) 39
Yamaguchi, T. see Sata, T. 100 (1995) 229
Yamahara, S. see Yamaguchi, T. 95 (1994) 39
Yamaki, T., Maeda, H., Kusakabe, K. and Morooka, S.
Control of the pore characteristics of thin alumina membranes with ultrafine zirconia particles prepared by the reversed micelle method 85 (1993) 167
Yamamoto, K. see Chiemchaisri, C. 87 (1994) 119
Yamamoto, T. see Inokuma, S. 97 (1994) 175
Yamasaki, A., Iwatsubo, T., Masuoka, T. and Mizoguchi, K.
Pervaporation of ethanol/water through a poly(vinyl alcohol)/cyclodextrin (PVA/CD) membrane 89 (1994) 111
Yamashita, Y. see Chai, M. 97 (1994) 199
Yan, N. see Ni, P. 89 (1994) 1
Yanagishita, H. see Shinbo, T. 84 (1993) 241
Yanagishita, H., Maejima, C., Kitamoto, D. and Nakane, T.
Preparation of asymmetric polyimide membrane for water/ethanol separation in pervaporation by the phase inversion process 86 (1993) 231
Yanagishita, H., Nakane, T. and Yoshitome, H.
Selection criteria for solvent and gelation medium in the phase inversion process 89 (1994) 215
Yanagishita, H. see Sano, T. 95 (1994) 221
Yang, J.-M. and Hsiue, G.-H.
Modified styrene–butadiene–styrene block copolymer membranes complexed with (*N,N'*-disalicylideneethylenediamine)-cobalt(II) for oxygen permeation: polymeric axial ligand effect 87 (1994) 233
Yang, J.-S. see Hsiue, G.-H. 82 (1993) 117
Yang, J.-W. see Hong, S.-A. 86 (1993) 181
Yang, S.-M. see Lee, S.-J. 96 (1994) 223
Yao, S., Costello, M., Fane, A.G. and Pope, J.M.
Non-invasive observation of flow profiles and polarisation layers in hollow fibre membrane filtration modules using NMR microimaging 99 (1995) 207
Yarbro, S.L. see Kathios, D.J. 97 (1994) 251
Yaroshchuk, A.E. and Dukhin, S.S.
Phenomenological theory of reverse osmosis in macroscopically homogeneous membranes and its specification for the capillary space-charge model 79 (1993) 133
Yaroshchuk, A.E. and Vovkogon, Yu.A.
Phenomenological theory of pressure-driven transport of ternary electrolyte solutions with a common coion and its specification for capillary space–charge model 86 (1993) 1
Yaroshchuk, A.E. and Vovkogon, Yu.A.
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19
Yeager, D. see Klein, E. 95 (1994) 199
Yeager, D.H. see Klein, E. 90 (1994) 69
Yeager, H.L. see Gronowski, A.A. 82 (1993) 83
Yi, G. see Rethwisch, D.G. 95 (1994) 83
Yilmaz, L. see Süer, M.G. 91 (1994) 77
Yonemoto, T. see Sato, K. 100 (1995) 209
Yoshida, R., Okuyama, Y., Sakai, K., Okano, T. and Sakurai, Y.
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267
Yoshikawa, M., Wano, T. and Kitao, T.
Specialty polymeric membranes. 1. Modified polybutadiene membranes for alcohol separation 76 (1993) 255
Yoshikawa, M., Shimidzu, T., Maeda, Y., Magara, K. and Tsugaya, H.
Pervaporation of aqueous acetic acid mixture through poly(acrylic acid-co-acrylonitrile) membranes 82 (1993) 157
Yoshikawa, M., Wano, T. and Kitao, T.
Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23
Yoshioka, T. see Henmi, M. 85 (1993) 129
Yoshitome, H. see Yanagishita, H. 89 (1994) 215
Youn, I.J., Lee, Y. and Lee, W.H.
Analysis of permeation rate of cobalt ions across a supported liquid membrane containing HEH(EHP) 100 (1995) 69
Young, T.-H. and Chen, L.-W.
Roles of bimolecular interaction and relative diffusion rate in membrane structure control 83 (1993) 153
Yuan, Y. see Le Roux, J.D. 90 (1994) 37; 94 (1994) 143
Yücel, A.M. see Eroğlu, I. 86 (1993) 171

# Z

Zabolotsky, V.I. and Nikonenko, V.V.
Effect of structural membrane inhomogeneity on transport properties 79 (1993) 181
Zaboubi, B. see Gupta, B.B. 80 (1993) 13
Zaman, J. and Chakma, A.
Inorganic membrane reactors 92 (1994) 1
Zamaraev, K.I. see Ilinich, O.M. 82 (1993) 149; 86 (1993) 37

Zamaraev, K.I. see Ilinitch, O.M. 98 (1995) 287
Zeman, L. and Fraser, T.
Formation of air-cast cellulose acetate membranes. Part I. Study of macrovoid formation 84 (1993) 93
Zeman, L. and Fraser, T.
Formation of air-cast cellulose acetate membranes Part II. Kinetics of demixing and microvoid growth 87 (1994) 267
Zha, F.F., Coster, H.G.L. and Fane, A.G.
A study of stability of supported liquid membranes by impedance spectroscopy 93 (1994) 255
Zhang, J. and Hou, X.
The gas permeation property in trimethylsilyl-substituted PPO and triphenylsilyl-substituted PPO 97 (1994) 275
Zhang , K. see Zhang , Y. 80 (1993) 297
Zhang, M. see Ni, P. 89 (1994) 1
Zhang, S. see Drioli, E. 80 (1993) 309; 81 (1993) 43
Zhang , Y., Zhang , K. and Xu , J.
Preferential sorption of modified PVA membrane in pervaporation 80 (1993) 297
Zhao, H., Price, W.E. and Wallace, G.G.
Effect of the counterion employed during synthesis on the properties of polypyrrole membranes 87 (1994) 47
Zhao, H. see Zhou, D. 98 (1995) 173
Zheng, Z. see Gu, Z. 93 (1994) 137
Zhilin, Yu. see Volchek, K. 79 (1993) 253
Zhou, D., Zhao, H., Price, W.E. and Wallace, G.G.
Electrochemically controlled transport in a dual conducting polymer membrane system 98 (1995) 173
Zhoushi, T. see Xuesong, G. 88 (1994) 37
Zhu, C.-L. see Wu, L.-G. 90 (1994) 199, 207
Ziaka, Z.D., Minet, R.G. and Tsotsis, T.T.
A high temperature catalytic membrane reactor for propane dehydrogenation 77 (1993) 221
Zuccon, J. see Simons, R. 78 (1993) 63
Zydney, A.L. see Kelly, S.T. 80 (1993) 175
Zydney, A.L. see Mochizuki, S. 82 (1993) 211
Zydney, A.L., Aimar, P., Meireles, M., Pimbley, J.M. and Belfort, G.
Use of the log-normal probability density function to analyze membrane pore size distributions: functional forms and discrepancies 91 (1994) 293
Zydney, A.L. see Palecek, S.P. 95 (1994) 71
Zydney, A.L. see Belfort, G. 96 (1994) 1

# CUMULATIVE SUBJECT INDEX
## VOLUMES 76–100

ELSEVIER

Journal of Membrane Science 101 (1995) 213–261

journal of MEMBRANE SCIENCE

# Subject Index Volumes 76–100

## A

**Absorption**
Absorption of carbon monoxide in hollow fiber membranes 96 (1994) 183

**Acetic acid**
Poly(vinyl chloride)polyacrylonitrile composite membranes for the dehydration of acetic acid 81 (1993) 57

**Acid gas transport**
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161

**Acid transport**
Properties of composite membranes from ion exchange membranes and conducting polymers. III. Changes in acid transport 84 (1993) 259

**2-Acrylamide-2-methyl propane sulfonic acid**
Uphill transport of amino acids through 2,3-epithiopropyl methacrylate–2-acrylamide-2-methyl propane sulfonic acid copolymer membranes 76 (1993) 193

**Acrylic acid**
Development of a new functional cation-exchange membrane and its application to facilitated transport of $CO_2$ 93 (1994) 237

**Acrylic acid–acrylonitrile copolymer**
Pervaporation of aqueous acetic acid mixture through poly(acrylic acid-co-acrylonitrile) membranes 82 (1993) 157

**Acrylonitrile copolymer membranes**
Immobilization of glucose oxidase using acrylonitrile copolymer membranes 88 (1994) 279

**Activated carbon**
Effect of adsorption of organic matter on fouling of ultrafiltration membranes 84 (1993) 61

**Activation energy**
Numerical simulation of solvent diffusion for binary alcohol mixtures in polyacrylonitrile membrane 99 (1995) 107

**Active carbon**
Shear stress induced erosion of filtration cake studied by a flat rotating disk method. Determination of the critical shear stress of erosion 84 (1993) 229

**Active transport**
Transport characteristics of the photo-driven active transport by triaryl cations across a liquid membrane 89 (1994) 101

**Activity coefficients**
Electrochemical properties of cellulosic ion-exchange membranes I. Equilibrium and permselectivity 92 (1994) 75

**Adsorption**
Adsorption of aquatic humic substances on hydrophobic ultrafiltration membranes 97 (1994) 37

**Affinity membrane**
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271

Membrane-based scintillation proximity assays I. Detection and quantification of $^{14}CO_2$ 98 (1995) 275

**Air-cast membranes**
Formation of air-cast cellulose acetate membranes Part II. Kinetics of demixing and microvoid growth 87 (1994) 267

**Air separation**
Development of a defect-free 6FDA-durene asymmetric hollow fiber and its composite hollow fibers 88 (1994) 21

**Air sparging**
Gas–liquid two-phase cross-flow ultrafiltration of BSA and dextran solutions 90 (1994) 183

**Albumin**
Concentration polarization formation in ultrafiltration of blood and plasma 84 (1993) 293

Optimization of ultrafiltration and diafiltration processes for albumin production 97 (1994) 71

**Alcohol permselective membrane**
Specialty polymeric membranes. 1. Modified polybutadiene membranes for alcohol separation 76 (1993) 255

0376-7388/95/$09.50 © 1995 Elsevier Science B.V. All rights reserved
*SSDI* 0376-7388(95)9999-Z

Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23

**Alcohols**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

**Alkali metal cations**
Counterion-specific swelling behaviour of crosslinked poly(L-glutamic acid) membranes in aqueous alcohols 81 (1993) 253

**Alkali metal cation transport**
Synthesis of double-looped crownophanes and their ability of amino acid transport through liquid membranes 97 (1994) 175

**Alkali metal ions**
Liquid membrane transport of alkali metal cations with mixed carrier systems composed of phosphoric acid–crown ether having a side arm 85 (1993) 175

**Alumina**
New and modified anodic alumina membranes Part II. Comparison of solubility of amorphous (normal) and polycrystalline anodic alumina membranes 98 (1995) 143

**γ-Alumina membrane**
Preparation of a γ-alumina nanofiltration membrane 97 (1994) 167

**Aluminum nitrate**
The effect of molecular weight cut-off of PAN ultrafiltration support layer on separation of water–ethanol mixtures through pervaporation with PAA–PAN composite membrane 90 (1994) 91

**Amberlite**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

**Amines**
Dehydration of amines and diamines by pervaporation with ionomer and PVA-based membranes 81 (1993) 97

**Amino acid adsorption**
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271

**Amino acid concentration**
Process development of amino acid concentration by a liquid emulsion membrane technique 86 (1993) 181

**Amino acids**
The desalination of a mixed solution of an amino acid and an inorganic salt by means of electrodialysis with charge-mosaic membranes 100 (1995) 209

**Amino acid transport**
Synthesis of double-looped crownophanes and their ability of amino acid transport through liquid membranes 97 (1994) 175

**Ammoniacal cuprous chloride**
Absorption of carbon monoxide in hollow fiber membranes 96 (1994) 183

**Ammonia removal**
Thermally forced membrane desorption–absorption of ammonia 89 (1994) 93

**Amphiphilic quaternary ammonium ion**
Negatively charged ultrafiltration membranes of polyacrylonitrile having amphiphilic quaternary ammonium counter ions 90 (1994) 141

**Anaerobic digestion**
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131

**Analytical method**
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21

**Anion-exchange groups**
Preparation of microfiltration membranes containing anion-exchange groups 76 (1993) 209

**Anion exchange membrane**
Facilitated transport of carbohydrates via complexation with borate ion fixed on an anion-exchange membrane 98 (1995) 177

Interaction between anionic polyelectrolytes and anion exchange membranes and change in membrane properties 100 (1995) 229

**Anionic polyelectrolytes**
Interaction between anionic polyelectrolytes and anion exchange membranes and change in membrane properties 100 (1995) 229

**Anodic alumina**
New and modified anodic alumina membranes Part II. Comparison of solubility of amorphous (normal) and polycrystalline anodic alumina membranes 98 (1995) 143

**Antigen removal**
Structural characteristics of a macroporous membrane used for HBs antigen removal 81 (1993) 263

**Apple juice clarification**
Scaling up pulsatile filtration flow methods to a pilot apparatus equipped with mineral membranes 80 (1993) 13

**Approximate solution**
An approximate solution for countercurrent gas permeation separating multicomponent mixtures 95 (1994) 11

**Aqueous coagulation**
Aqueous quenched asymmetric polysulfone membranes prepared by dry/wet phase separation 81 (1993) 71

**Aqueous ethanol solution**
Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

**Aqueous mixture of chlorinated hydrocarbons**
Coupling phenomena in the removal of chlorinated hydrocarbons by means of pervaporation 78 (1993) 135

**Aqueous picolines**
Sorption and permeation of aqueous picolines in elastomeric membranes 91 (1994) 163

**Aqueous quenched polysulfone**
Aqueous quenched asymmetric polysulfone hollow fibers prepared by dry/wet phase separation 88 (1994) 1

**Arginine**
Transport properties of electrodialysis membranes in the presence of arginine. II. Competition between the electrotransport of organic and inorganic ions through a cation exchange membrane in an aqueous solution of arginine chlorhydrate and sodium chloride 89 (1994) 83

**Aroma compound recovery**
Aroma compound recovery with pervaporation – feed flow effects 81 (1993) 163

Aroma compound recovery with pervaporation – the effect of high ethanol concentrations 91 (1994) 189

**Artificial kidney**
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217

**Asymmetric membrane**
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65

Modification of asymmetric polysulfone membranes by mild surface fluorination Part I. Transport properties 94 (1994) 121

**Atomic force microscopy**
Surface characterization of ceramic membranes by atomic force microscopy 95 (1994) 289

**ATR-FTIR**
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223

**Axial ligand**
Modified styrene–butadiene–styrene block copolymer membranes complexed with (*N,N'*-disalicylideneethylenediamine)cobalt(II) for oxygen permeation: polymeric axial ligand effect 87 (1994) 233

# B

**$Ba^{2+}$–18-crown-6 carrier**
Highly selective and efficient transport of mercury as $Hg(NO^2)^{2-}{}_4$ ion using $Ba^{2+}$–18-crown-6 as carrier 86 (1993) 29

**Backflushing**
Gas permeation in ceramic membranes Part II. Modeling of gas permeation through ceramic membrane with one supported layer 97 (1994) 145

**Backwash**
Hollow fiber membrane based on polyacrylonitrile with a high degree of polymerization and its properties 85 (1993) 129

**Bacteria**
Cake resistance and solute rejection in bacterial microfiltration: The role of the extracellular matrix 79 (1993) 35

**Bacteriorhodopsin**
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171

**Baffled membranes**
Simulation of cross-flow filtration for baffled tubular channels and pulsatile flow 95 (1994) 243

**Barium titanate**
Separation of $CO_2$ with $BaTiO_3$ membrane prepared by the sol–gel method 95 (1994) 171

**Barrier membranes**
Preparation and analysis of thin polysulfone films under high and low gravitational field environments 98 (1995) 27

**Batch ultrafiltration**
Application of batch ultrafiltration to the separation of W/O emulsions in liquid surfactant membrane processes 96 (1994) 193

**Batteries**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

Properties of composite membranes prepared from ion exchange membranes and conducting polymers V. Dependence of EMF of composite membranes prepared from anion exchange membranes and polypyrrole on relative humidity 91 (1994) 199

**Beer clarification**
Mechanisms governing permeate flux and protein rejection in the microfiltration of beer with a Cyclopore membrane 84 (1993) 37

**Benzene–cyclohexane mixture**
Sorption and pervaporation of benzene–cyclohexane mixtures through composite membranes prepared via concentrated emulsion polymerization 99 (1995) 273

**Benzo-15-crown-5**
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99

**Benzyl chloride**
Preparation of microfiltration membranes containing anion-exchange groups 76 (1993) 209

**Biliquid**
A comparative study of techniques used for porous membrane characterization: pore characterization 87 (1994) 35

**Binary membranes**

Non-steady state vs. steady state kinetic analysis of coupled ion transport through binary liquid membranes 76 (1993) 27

**Binary mixture of proteins**
Formation and characteristics of dynamic membrane for ultrafiltration of protein in binary protein system 92 (1994) 107

**Biodegradation**
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249

**Biofouling**
The permeability of biofouling layers on membranes 87 (1994) 199

**Biofunctional membranes**
Biofunctional membranes Part IV. Active-site structure and stability of an immobilized enzyme, papain, on modified polysulfone membranes studied by electron paramagnetic resonance and kinetics 91 (1994) 47

**Biological membranes**
Solubility of gases and vapors in biological media: a simple correlation 76 (1993) 89

**Bioproduct separation**
Comparison of the separation of lactic acid and L-leucine by liquid emulsion membranes 80 (1993) 85

**Bioreactors**
A novel configuration for packed bed membrane fermenters for maximizing ethanol productivity and concentration 82 (1993) 75

**Biosensor**
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131

**Bioseparation processes**
Effect of temperature gradients on the activity of enzymes immobilized on natural polymeric matrices 78 (1993) 69

**Biotechnology**
Chitosan modified sulfonated poly(ethersulfone) as a support for affinity separations 95 (1994) 199

**Bipolar and biological membranes**
AC impedance of the bipolar membrane at low and high frequencies 100 (1995) 77

**Bipolar membrane**
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283

A mechanism for water flow in bipolar membranes 82 (1993) 65

**Bis(2-ethylhexyl)phosphoric acid**
Liquid membrane transport of alkali metal cations with mixed carrier systems composed of phosphoric acid–crown ether having a side arm 85 (1993) 175

**Blended membrane**
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

Study of a new pervaporation membrane Part 2. Performance test and analysis of the new membrane 90 (1994) 207

Association behavior in copolymer blend membranes and the pervaporation of water/ethanol mixtures 85 (1993) 81

Comparison of mixed and pure gas permeation characteristics for $CO_2$ and $CH_4$ in copolymers and blends containing methyl methacrylate units 77 (1993) 49

**Block copolymers**
Membrane modification to avoid wettability changes due to protein adsorption in an emulsion/membrane bioreactor 80 (1993) 265

**Blocking laws**
Constant flowrate blocking laws and an example of their application to dead-end microfiltration of protein solutions 82 (1993) 285

**Blocking resistance**
Effects of size and compressibility of suspended particles and surface pore size of membrane on flux in crossflow filtration 81 (1993) 173

**Blood plasma purification**
Structural characteristics of a macroporous membrane used for HBs antigen removal 81 (1993) 263

**Borate ion**
Facilitated transport of carbohydrates via complexation with borate ion fixed on an anion-exchange membrane 98 (1995) 177

**Boric acid**
Carrier-mediated, thermal energy coupled, non-isothermal membrane transport Part 1. Transfer of the solute boric acid 93 (1994) 217

**Boundary layer**
Aroma compound recovery with pervaporation – feed flow effects 81 (1993) 163

**Bovine serum albumin**
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119

**Brine concentration**
Pilot scale brine concentration process using membrane pervaporation 87 (1994) 131

**BSA**
Gas–liquid two-phase cross-flow ultrafiltration of BSA and dextran solutions 90 (1994) 183

**BSA adsorption**
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21

**Bulk membrane stability**
Investigation of the rate-limiting step of coupled copper ion transport through liquid membranes by means of variable speed experiments 90 (1994) 101

**Butanol–water system**
Study of interaction between butyl alcohols and cellulose acetate polymers with reverse osmosis, high pressure liquid chromatography and pervaporation methods 78 (1993) 101

# C

**Cadmium ions**
Carrier-mediated transport through liquid membranes Studies on transport of cadmium ions using sodium lauryl sulphate reversed micelles as carriers 93 (1994) 229

**Cake filtration**
Cake filtration mechanisms in steady and unsteady flows 77 (1993) 113

**Cake formation**
Modelling the effects of particle polydispersity in crossflow filtration 99 (1995) 77

**Calcium**
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193

**Capillary membrane**
Some global transport properties of polysulfone capillary UF membranes 90 (1994) 191

**Capillary space–charge model**
Phenomenological theory of pressure-driven transport of ternary electrolyte solutions with a common coion and its specification for capillary space–charge model 86 (1993) 1

**Capillary viscosity**
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209

**Capsule membrane**
pH-responsive permeability of poly(acrylic acid)–poly(ethylenimine) complex capsule membrane 76 (1993) 233

**Carbon**
Nanoporous carbon membranes for separation of gas mixtures by selective surface flow 85 (1993) 253

Highly asymmetrical carbon membranes 95 (1994) 93

**Carbon dioxide**
Concurrent measurements of sorption and dilation isotherms and diffusivity for polysulfone membrane/carbon dioxide system 98 (1995) 69

Application of a membrane reactor system to thermal decomposition of $CO_2$ 77 (1993) 245

**Carbon molecular sieves**
Adsorbent filled membranes for gas separation. Part 1. Improvement of the gas separation properties of polymeric membranes by incorporation of microporous adsorbents 80 (1993) 189

**Carbon monoxide**
Absorption of carbon monoxide in hollow fiber membranes 96 (1994) 183

**Carrier**
Selective uphill transport of cyanide ion mediated by tetraphenylporphinatomanganese(III) complex through bulk and polymer-supported liquid membranes 86 (1993) 155

**Carrier-mediated diffusion**
Poly(4-vinylpyridine-co-styrene) membranes do not show facilitated transport 77 (1993) 59

**Carrier-mediated transport**
Carrier-mediated transport through liquid membranes Studies on transport of cadmium ions using sodium lauryl sulphate reversed micelles as carriers 93 (1994) 229

**Carrier-relay mechanism**
Facilitated transport of carbohydrates via complexation with borate ion fixed on an anion-exchange membrane 98 (1995) 177

**Carriers**
Kinetic aspects of copper (II) transport across liquid membrane containing LIX-860 as a carrier 78 (1993) 239

**Cascade filtration**
The effect of protein adsorption on ApoB removal and selectivity in plasma fractionation by membrane 91 (1994) 97

**Case-II transport**
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267

**Casein hydrolysates**
Fractionation of casein hydrolysates using polysulfone ultrafiltration hollow fiber membranes 80 (1993) 257

**Cast films**
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161

**Catalysis**
Current hurdles to the success of high-temperature membrane reactors 95 (1994) 105

**Catalyst deactivation**
Catalytic isobutane dehydrogenation in a dense silica membrane reactor 77 (1993) 207

**Catalyst recovery**
Reverse osmosis for separation of reaction solutions in homogeneous catalysis 86 (1993) 37

**Catalytic dehydrogenation**

Ethane dehydrogenation using a high-temperature catalytic membrane reactor 90 (1994) 11

**Catalytic membrane**
The use of catalytically active pervaporation membranes in esterification reactions to simultaneously increase product yield, membrane permselectivity and flux 85 (1993) 291

Modelling of ethylbenzene dehydrogenation in a catalytic membrane reactor 77 (1993) 233

**Catalytic transport**
Dehydration of water–pyridine mixture through poly(acrylonitrile-*co*-acrylic acid) membrane by pervaporation 98 (1995) 183

**Cation exchange membranes**
Transport competition between monovalent and divalent cations through cation-exchange membranes. Exchange isotherms and kinetic concepts 96 (1994) 167

**$Cd^{2+}$ and $Pb^{2+}$ extraction**
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49

**Cell culture feed**
Diagnosis of membrane fouling using a rotating annular filter. 1. Cell culture media 77 (1993) 1

**Cellulose acetate**
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281

**Cellulose acetate/acetone**
Effect of evaporation step on macrovoid formation in wet-cast polymeric membranes 91 (1994) 265

**Cellulose acetate membranes**
Separation of organic solutes by membrane pressure-driven processes 89 (1994) 235

**Cellulose triacetate**
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

**Cellulose triacetate membranes**
Molecular weight distribution of methyl methacrylate grafted onto a microfiltration membrane by radiation-induced graft polymerization 85 (1993) 71

**Ceramic membrane cleaning**
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131

**Ceramic membranes**
Formation and characterization of supported microporous ceramic membranes prepared by sol-gel modification techniques 99 (1995) 57

**Ceramic or composite membranes**
Dynamic characterization and transport mechanisms of two inorganic membranes for nanofiltration 97 (1994) 155

**CFC/ $H_2S$-adsorption**
Treatment of landfill gas by gas permeation – pilot plant results and comparison to alternatives 87 (1994) 107

**$CH_4$**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

**Change in membrane properties**
Interaction between anionic polyelectrolytes and anion exchange membranes and change in membrane properties 100 (1995) 229

**Channel flow**
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229

**Channel geometry**
The effect of channel height and channel spacers on flux and energy requirements in crossflow filtration 91 (1994) 135

**Characterization**
Pore size distribution determination from liquid permeation through microporous membranes 99 (1995) 127

**Charged membranes**
Electrochemistry of weakly charged membranes 79 (1993) 159

**Charged ultrafiltration membrane**
Restricted permeation of dextransulfates by electrostatic barrier of negatively charged ultrafiltration membranes: salt effect on the permeation 86 (1993) 47

Negatively charged ultrafiltration membranes of polyacrylonitrile having amphiphilic quaternary ammonium counter ions 90 (1994) 141

**Charge-mosaic membranes**
The desalination of a mixed solution of an amino acid and an inorganic salt by means of electrodialysis with charge-mosaic membranes 100 (1995) 209

**Charge repulsion**
Fouling and retention of nanofiltration membranes 98 (1995) 249

**Charged membrane**
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223

**Charge transfer complex**
Gas permeation of aromatic polyimides. II. Influence of chemical structure 81 (1993) 23

**Chemical equilibrium**
Application of a membrane reactor system to thermal decomposition of $CO_2$ 77 (1993) 245

**Chemical modification**
Structure and gas permeability of alkynylated poly(phenylene oxide) 95 (1994) 135

**Chemical surface modification**

Flux enhancement of reverse osmosis membranes by chemical surface modification 97 (1994) 231

**Chemical vapor deposition**
Characterization of hydrogen-permselective microporous ceramic membranes 96 (1994) 275

**Chiral crown ethers**
Supported liquid membranes for enantioselective transport of amino acid mediated by chiral crown ether – effect of membrane solvent on transport rate and membrane stability 84 (1993) 241

**Chiral discrimination**
Enantioselective transport of amino acid through supported chiral liquid membranes 85 (1993) 221

**Chitosan**
Investigation of the permselectivity of chitosan membrane used in pervaporation separation II. Influences of temperature and membrane thickness 98 (1995) 223

Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

**Chlorine**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Chloromethylstyrene–styrene copolymer**
Fundamental study of noncross-linking anion exchange membranes 88 (1994) 77

**3-(Chlorosulphonyl) benzoyl chloride**
Chemical composition of thin-film composite reverse osmosis membranes made from poly-2-vinylimidazoline 78 (1993) 283

**Chromatography**
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217

**Chromia–alumina catalyst**
Catalytic isobutane dehydrogenation in a dense silica membrane reactor 77 (1993) 207

**Chromium**
Extraction of hexavalent chromium ions with polyurea microcapsules 89 (1994) 1

**Chymotrypsin**
Fractionation of casein hydrolysates using polysulfone ultrafiltration hollow fiber membranes 80 (1993) 257

**Cleaning**
Performance evaluation of surface hydrophilized novel ultrafiltration membranes using aqueous proteins 99 (1995) 149

**$CO_2$**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

**$CO_2$ removal**
Design of a $CO_2$ scrubber for self-contained breathing systems using a microporous membrane 86 (1993) 119

**$CO_2$ transport**
$CO_2$ facilitated transport through functionalized cation-exchange membranes 82 (1993) 51

**Coagulant**
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233

**Coagulation value**
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233

**Coalescence**
Novel techniques for oil/water separation 99 (1995) 197

**Coarsening**
Coarsening effects on the formation of microporous membranes produced via thermally induced phase separation of polystyrene–cyclohexanol solutions 98 (1995) 209

**Cobalt**
Modelling of the competitive permeation of cobalt and nickel in a di(2-ethylhexyl)phosphoric acid supported liquid membrane process 85 (1993) 157

**Cobalt ions**
Analysis of permeation rate of cobalt ions across a supported liquid membrane containing HEH(EHP) 100 (1995) 69

**Co-ion leakage**
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283

**Cold-stretching**
Structural study of microporous polypropylene hollow fiber membranes made by the melt-spinning and cold-stretching method 93 (1994) 209

**Colloidal fouling model**
Lactic acid separation from fermentation broths by reverse osmosis and nanofiltration 92 (1994) 185

**Colloidal solutions**
Structure, physical and chemical properties and applications of nuclear filters as a new class of membranes 79 (1993) 285

**Colloids**
Calculation of limiting fluxes in the ultrafiltration of colloids and fine particulates 99 (1995) 229

**Combined film and membrane diffusion control**
Combined film and membrane diffusion-controlled transport of ions through charged membrane 90 (1994) 109

**Combustion**
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159

**Compaction**
Study of membrane compaction and its influence on ultrafiltration water permeability 100 (1995) 155

**Comparison of native and immobilized lipase on hollow-fiber membrane**

The activity of lipase from *Rhizopus* sp. in native form and after immobilization on hollow-fiber membranes 97 (1994) 209

**Competitive permeation**
Modelling of the competitive permeation of cobalt and nickel in a di(2-ethylhexyl)phosphoric acid supported liquid membrane process 85 (1993) 157

**Competitive preferential solvation (COPS) theory**
Non-steady state vs. steady state kinetic analysis of coupled ion transport through binary liquid membranes 76 (1993) 27

**Complexation–ultrafiltration**
Removal of copper and zinc from aqueous sulfate solution with polyacrylic acid by a batch complexation–ultrafiltration process 82 (1993) 175

**Complex membranes**
Novel methods in separation of olefin/paraffin mixtures by functional polymeric membranes 82 (1993) 117

**Composite membrane**
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249

Sorption and pervaporation of benzene–cyclohexane mixtures through composite membranes prepared via concentrated emulsion polymerization 99 (1995) 273

**Compressibility**
Cake growth mechanism in cross-flow microfiltration of mineral suspensions 98 (1995) 107

**Compression**
Effects of size and compressibility of suspended particles and surface pore size of membrane on flux in crossflow filtration 81 (1993) 173

**Computational fluid dynamics**
Simulation of cross-flow filtration for baffled tubular channels and pulsatile flow 95 (1994) 243

**Computer simulations**
Computer simulations of mass transfer in the concentration boundary layer over ultrafiltration membranes 85 (1993) 139

**Concentrated emulsion polymerization**
Sorption and pervaporation of benzene–cyclohexane mixtures through composite membranes prepared via concentrated emulsion polymerization 99 (1995) 273

**Concentration distribution**
Distribution of electrodialytic condition in an electrodialyzer and limiting current density 92 (1994) 217

**Concentration driven permeation of $SO_2$**
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87

**Concentration polarization**
Non-invasive observation of flow profiles and polarisation layers in hollow fibre membrane filtration modules using NMR micro-imaging 99 (1995) 207

Performance evaluation of surface hydrophilized novel ultrafiltration membranes using aqueous proteins 99 (1995) 149

**Concentration polarization equation**
Formation and characteristics of dynamic membrane for ultrafiltration of protein in binary protein system 92 (1994) 107

**Concentration polarization model**
Precise analytical model of hollow fiber reverse osmosis modules 85 (1993) 241

**Concentration profile**
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185

Zeolite-filled silicone rubber membranes Experimental determination of concentration profiles 89 (1994) 185

**Conditioning effect**
Sorption, transport, and history effects in phenolphthalein-based polysulfone 95 (1994) 147

**Conducting polymer membranes**
Electrochemically controlled transport of small charged organic molecules across conducting polymer membranes 100 (1995) 239

Novel membranes from conducting polymers 87 (1994) 23

Investigation of the gas-transport properties of polyaniline 91 (1994) 1

**Conductivity**
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207

**Configurational number**
Transport mode of membrane distillation process and the VMD method to determine the membrane configurational number 97 (1994) 1

**Constant volume system**
Design and construction of gas permeation system for the measurement of low permeation rates and permeate compositions 98 (1995) 281

**Contact angle**
Characterization of adsorptive fouling on ultrafiltration membranes by peptides mixtures using contact angle measurements 97 (1994) 283

**Contact ion-pair**
Counterion-specific swelling behaviour of crosslinked poly(L-glutamic acid) membranes in aqueous alcohols 81 (1993) 253

**Contactor**
The effect of shell side hydrodynamics on the performance of axial flow hollow fibre modules 80 (1993) 1

**Contained liquid membrane**
A modified hollow fiber contained liquid membrane technique for gas separation at high pressures 94 (1994) 163

**Continuous membrane column**

Permeators and continuous membrane columns with retentate recycle 98 (1995) 57

**Continuous operation**
Continuous extraction of penicillin G with liquid surfactant membrane using Vibro Mixer 93 (1994) 61

**Controlled release**
Temporally controlled transdermal systems: biphasic transdermal delivery of nitroglycerin 89 (1994) 245

**Convective transport**
Linear approximations for the description of solute flux through permselective membranes 95 (1994) 179

**Co-polymers**
Comparison of mixed and pure gas permeation characteristics for $CO_2$ and $CH_4$ in copolymers and blends containing methyl methacrylate units 77 (1993) 49

**Copper**
Removal of copper and zinc from aqueous sulfate solution with polyacrylic acid by a batch complexation–ultrafiltration process 82 (1993) 175

**Copper ion transport**
Investigation of the rate-limiting step of coupled copper ion transport through liquid membranes by means of variable speed experiments 90 (1994) 101

**Copper transport**
Kinetic aspects of copper (II) transport across liquid membrane containing LIX-860 as a carrier 78 (1993) 239

**Coulter porometer**
Liquid expulsion permporometry for characterization of porous membranes 95 (1994) 29

**Coulter porosimetry**
Evaluation of selected methods for the characterisation of ceramic membranes 89 (1994) 119

**Counterions**
Effect of the counterion employed during synthesis on the properties of polypyrrole membranes 87 (1994) 47

**Counterion separation**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Coupled**
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49

**Coupled copper transport**
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

**Coupled – facilitated transport**
Stability of flat sheet supported liquid membranes in the transport of radionuclides from reprocessing concentrate solutions 82 (1993) 237

**Coupled transport**
Transport of $Te^{4+}$ through liquid surfactant membrane using D2EHPA as the carrier 96 (1994) 233

**Coupling phenomena**
Diffusion dialysis Transport phenomena by irreversible thermodynamics 88 (1994) 167

Coupling phenomena in the removal of chlorinated hydrocarbons by means of pervaporation 78 (1993) 135

**Critical flux**
Critical flux concept for microfiltration fouling 100 (1995) 259

**Crossflow**
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185

**Crossflow filtration**
An elliptic filtration variation on Poiseuille-type laminar solutions of Navier–Stokes equations 91 (1994) 153

**Crossflow microfilter**
Criteria for selecting the operating regime of the crossflow microfilter or the tubular filter press for clarification of turbid waters 87 (1994) 57

**Crossflow microfiltration**
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263

**Crosslinked membranes**
Counterion-specific swelling behaviour of crosslinked poly(L-glutamic acid) membranes in aqueous alcohols 81 (1993) 253

**Cross-linker**
Preparation and characterization of silicone membranes for supported liquid membrane applications 76 (1993) 157

**Crosslinking**
Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23

**18-Crown-6,Tetrabutylammonium iodide**
Selective membrane transport of $Pb^{2+}$ ion by a cooperative carrier composed of 18-crown-6, tetrabutylammonium iodide and palmitic acid 95 (1994) 21

**Crown ether**
Liquid membrane transport of alkali metal cations with mixed carrier systems composed of phosphoric acid–crown ether having a side arm 85 (1993) 175

**Crownophanes**
Synthesis of double-looped crownophanes and their ability of amino acid transport through liquid membranes 97 (1994) 175

**Cuprammonium**
Application of the cuprammonium process (process for the production of regenerated cellulose membranes for hemodialysis) to sugarcane bagasse 82 (1993) 43

**Current density distribution**
Distribution of electrodialytic condition in an electrodialyzer and limiting current density 92 (1994) 217

**Cyanide ion**
Selective uphill transport of cyanide ion mediated by tetraphenylporphinatomanganese(III) complex through bulk and polymer-supported liquid membranes 86 (1993) 155

**Cyanoethyl cellulose acetate**
Studies on distribution and reverse osmosis properties of cellulose acetate derivatives for organic compounds 85 (1993) 1

**Cyclodextrins**
Pervaporation of ethanol/water through a poly(vinyl alcohol)/cyclodextrin (PVA/CD) membrane 89 (1994) 111

**Cyclopore membrane**
Mechanisms governing permeate flux and protein rejection in the microfiltration of beer with a Cyclopore membrane 84 (1993) 37

**Cytochrome c**
An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159

# D

**D2EHPA**
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163

**Daramic**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

**Darcy's law**
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209

**Deactivation**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Defect elimination**
Effect of mild solvent post-treatments on the gas transport properties of glassy polymer membranes 90 (1994) 213

**Defect-free selective layer**
Aqueous quenched asymmetric polysulfone membranes prepared by dry/wet phase separation 81 (1993) 71

**Defects**
A diffusion-controlled procedure to close pores in ceramic membranes 95 (1994) 259

**Defouling**
Dean vortices with wall flux in a curved channel membrane system 4. Effect of vortices on permeation fluxes of suspensions in microporous membrane 81 (1993) 139

**Dehydration**
Dehydration of amines and diamines by pervaporation with ionomer and PVA-based membranes 81 (1993) 97

**Dehydrogenation**
Membrane-assisted dehydrogenation of *n*-butane Influence of membrane properties on system performance 93 (1994) 193

**Demixing**
Changes in morphology and transport characteristics of polysulfone membranes prepared by different demixing conditions 98 (1995) 191

**Demulsification**
Electrical and chemical demulsification techniques for microemulsion liquid membranes 91 (1994) 231

**Denitrification**
Membrane bioprocesses for the denitrification of drinking water supplies 80 (1993) 233

**Dense membrane**
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65

**Dense polymer films**
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281

**Deposit analysis**
Cleaning of ultrafiltration membranes after treatment of oily waste water 87 (1994) 71

**Desalination**
The desalination of a mixed solution of an amino acid and an inorganic salt by means of electrodialysis with charge-mosaic membranes 100 (1995) 209

**Design**
Optimization of multicomponent pervaporation for removal of volatile organic compounds from water 97 (1994) 109

**Desorption**
Desorption of counter-ions followed with labelled ions and water dissociation in perfluorinated quaternary ammonium membranes and Nafion 125 membranes 84 (1993) 213

**Deviation coefficient**
On the coupling effect in pervaporation 81 (1993) 43

**Dextran**
Diffusion of dextran through microporous membrane filters 88 (1994) 253

Gas–liquid two-phase cross-flow ultrafiltration of BSA and dextran solutions 90 (1994) 183

**Dextransulfate**
Restricted permeation of dextransulfates by electrostatic barrier of negatively charged ultrafiltration membranes: salt effect on the permeation 86 (1993) 47

**DFCM**
AC impedance of the bipolar membrane at low and high frequencies 100 (1995) 77

**Di-(2-ethylhexyl)phosphoric acid**
Process development of amino acid concentration by a liquid emulsion membrane technique 86 (1993) 181

**Diafiltration**
The diafiltration method for the study of the binding of macromolecules to heavy metals 89 (1994) 257

**Dialysis**
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217

**Dialysis / including Donnan**
Theoretical analysis of neutralization dialysis in the three-compartment membrane cell 98 (1995) 13

**Dialysis membrane**
Determination of pore size and pore size distribution 2. Dialysis membranes 96 (1994) 91

**Dielectric constant**
Gas permeation of aromatic polyimides. I. Relationship between gas permeabilities and dielectric constants 81 (1993) 15

**Diesel engines**
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159

**Diethylamino group**
Preparation of microfiltration membranes containing anion-exchange groups 76 (1993) 209

**Diffusion**
Two- and three-dimensional analysis of diffusion through a dense membrane supported on a porous material 99 (1995) 175

The diffusion limited oxidase-based glucose enzyme electrode: relation between covering membrane permeability and substrate response 76 (1993) 261

**Diffusional rate-determining step**
Investigation of the rate-limiting step of coupled copper ion transport through liquid membranes by means of variable speed experiments 90 (1994) 101

**Diffusion and convection**
An experimental study of diffusion and convection of multicomponent gases through catalytic and non-catalytic membranes 92 (1994) 275

**Diffusion coefficient**
Pervaporation of ethanol/water through a poly(vinyl alcohol)/cyclodextrin (PVA/CD) membrane 89 (1994) 111

**Diffusion dialysis**
Diffusion dialysis Transport phenomena by irreversible thermodynamics 88 (1994) 167

**Diffusion layer**
Intensification of electrodialysis based on electroosmosis of the second kind 79 (1993) 199

**Diffusion of binary mixtures**
Numerical simulation of solvent diffusion for binary alcohol mixtures in polyacrylonitrile membrane 99 (1995) 107

**Diffusiophoresis**
Modeling of coupled transport of ions and zwitterions across porous ion exchange membranes 79 (1993) 211

**Diffusive and convective**
Diffusive flows in ultrafiltration and their effect on membrane retention properties 80 (1993) 73

**Diffusive permeability**
Determination of pore size and pore size distribution 2. Dialysis membranes 96 (1994) 91

**Diffusivity**
Pervaporation with sweeping gas in polymeric hollow fiber membrane module Separation of alcohols from aqueous solution 93 (1994) 245

**Diisopropylamine**
Selective permeation of carbon dioxide through plasma polymerized membrane from diisopropylamine 92 (1994) 257

**Dilation**
Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45

**Dilute organic–water mixtures**
Pervaporation of dilute organic–waters mixtures. A literature review on modelling studies and applications to aroma compound recovery 76 (1993) 121

**Diol groups**
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21

**Dissociation**
Variation of membrane charge of nylon 6 with pH 92 (1994) 229

**Dissolved oxygen**
Removal of dissolved oxygen in ultrapure water production using microporous membrane modules 87 (1994) 99

**Distillation**
A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51

**Dodecane–water emulsion**
Critical flux concept for microfiltration fouling 100 (1995) 259

**Donnan dialysis**

Combined film and membrane diffusion-controlled transport of ions through charged membrane 90 (1994) 109

**Donnan equilibrium**
Swelling properties of hyaluronic acid ester membranes 92 (1994) 157

**Donnan potential**
Variation of membrane charge of nylon 6 with pH 92 (1994) 229

**Drinking water**
Membrane bioprocesses for the denitrification of drinking water supplies 80 (1993) 233

**Drug delivery system**
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267

**Drug permeability**
Temporally controlled transdermal systems: biphasic transdermal delivery of nitroglycerin 89 (1994) 245

**Dry/wet phase separation**
Aqueous quenched asymmetric polysulfone hollow fibers prepared by dry/wet phase separation 88 (1994) 1

**Dry-cast model**
Dense polymer film and membrane formation via the dry-cast process Part I. Model development 94 (1994) 255

**Dry-cast process**
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281

**Dual membrane cell**
Electrochemically controlled transport in a dual conducting polymer membrane system 98 (1995) 173

**Dual-mode model**
Permeation of carbon dioxide in glassy poly(ether imide) and poly(ether ether ketone) membranes 93 (1994) 53

**Dual-sorption model**
Mixed gas sorption in elastic solids 96 (1994) 241

**Dynamically formed membranes**
Formation and characterization of polyamide membranes via interfacial polymerization 93 (1994) 175

**Dynamic capillary condensation porometry**
Characterization of ceramic membranes I. Thermal and hydrothermal stabilities of commercial 40 Å membranes 92 (1994) 29

**Dynamic contact angle analysis**
Modification of asymmetric polysulfone membranes by mild surface fluorination Part II. Characterization of the fluorinated surface 94 (1994) 143

**Dynamic filtration**
An elliptic filtration variation on Poiseuille-type laminar solutions of Navier–Stokes equations 91 (1994) 153

**Dynamic membrane**
Formation and characteristics of dynamic membrane for ultrafiltration of protein in binary protein system 92 (1994) 107

**Dynamic modeling**
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263

# E

**Economic analysis**
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193

Optimization of multicomponent pervaporation for removal of volatile organic compounds from water 97 (1994) 109

Treatment of landfill gas by gas permeation – pilot plant results and comparison to alternatives 87 (1994) 107

**Efficiency**
A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51

**Eicosapentaenoic acid**
Facilitated uphill transport of eicosapentaenoic acid ethyl ester through bulk and supported liquid membranes containing silver nitrate as carrier: a new type of uphill transport 91 (1994) 209

**Elastomeric membranes**
Sorption and permeation of aqueous picolines in elastomeric membranes 91 (1994) 163

**Electrical conductivity**
Electrotransport of protons and chloride ions in anion exchange membranes for the recovery of acids. Part I. Equilibrium properties 85 (1993) 183

**Electrically controlled permeability**
Electrically-modulated variable permeability liquid crystalline polymeric membrane 77 (1993) 99

**Electrical model**
An electrical model for the relaxation of streaming potential across a charged membrane 84 (1993) 29

**Electrical resistance**
Transport of $Na_2SO_4$ and $MgSO_4$ solutions through a composite membrane 80 (1993) 275

**Electric current**
Pervaporation induced by electric current 91 (1994) 249

**Electric field**

Pulsed-electric-field crossflow ultrafiltration of bovine serum albumin 80 (1993) 209

Use of an electric field to alter membrane morphology in a polysulfone–polyvinylpyrrolidone blend 79 (1993) 115

**Electrochemical**
Membrane reactors for electrochemical synthesis processes 90 (1994) 161

**Electrochemical interaction**
An interpretation of the separation of low and high molecular weight solutes by ultrafiltration 79 (1993) 227

**Electrochemically controlled transport**
Electrochemically controlled transport in a dual conducting polymer membrane system 98 (1995) 173

**Electrochemistry**
Multiple steady states in ionic membranes with negative conductance 99 (1995) 39

**Electroconvection**
Continued studies of an electroconvective liquid membrane for gas separation 99 (1995) 249

**Electroconvective transport**
Use of polar solvents in an electroconvective liquid membrane for gas separation 84 (1993) 191

**Electrode**
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131

**Electrodialysis**
The desalination of a mixed solution of an amino acid and an inorganic salt by means of electrodialysis with charge-mosaic membranes 100 (1995) 209

**Electrokinetic phenomena**
An electrical model for the relaxation of streaming potential across a charged membrane 84 (1993) 29

**Electroless codeposition**
Simultaneous deposition of Pd and Ag on porous stainless steel by electroless plating 77 (1993) 181

**Electrolysis**
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211

**Electrolyte mixtures**
Phenomenological theory of pressure-driven transport of ternary electrolyte solutions with a common coion and its specification for capillary space–charge model 86 (1993) 1

**Electrolyte transport**
The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285

**Electron microscopy**
Structure and aging characteristics of $H_2$-permselective $SiO_2$–Vycor membranes 87 (1994) 281

**Electron paramagnetic resonance spectroscopy**
Applying electron paramagnetic resonance spectroscopy to the study of fouling in protein ultrafiltration 96 (1994) 289

**Electron transfer**
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259

**Electroosmosis**
On current dependence of the electro-osmotic permeability in ion-exchange membranes 95 (1994) 1

**Electrophoresis**
Enhanced separation of albumin–poly(ethylene glycol) by combination of ultrafiltration and electrophoresis 80 (1993) 221

**Electrostatic barrier**
Negatively charged ultrafiltration membranes of polyacrylonitrile having amphiphilic quaternary ammonium counter ions 90 (1994) 141

**Electrotransport**
Electrotransport of sulphuric acid in special anion exchange membranes for the recovery of acids 97 (1994) 99

**Electro-ultrafiltration**
Pulsed-electric-field crossflow ultrafiltration of bovine serum albumin 80 (1993) 209

**Electroviscous effects**
pH and ionic strength effects on the performance of ceramic membranes in water filtration 93 (1994) 91

**Elution curve**
High collection rate of Pd in hydrochloric acid medium using chelating microporous membrane 95 (1994) 63

**Emulsion**
Dearomatisation of a refinery kerosene by liquid surfactant membranes – prediction of extraction rates 88 (1994) 69

**Emulsion liquid membranes**
Recovery of zinc from an industrial effluent by emulsion liquid membranes 84 (1993) 201

**Emulsion polymer**
Pervaporation with latex membranes. I. Latex membrane preparation and characterization 82 (1993) 27

**Enantioselective permeation**
Enantioselective permeation through poly{γ-[3-(pentamethyldisiloxanyl)propyl]-L-glutamate} membranes 99 (1995) 117

**Enantioselective transport**
Supported liquid membranes for enantioselective transport of amino acid mediated by chiral crown ether – effect of membrane solvent on transport rate and membrane stability 84 (1993) 241

**Energy saving**
Energy saving pulsatile mode cross flow filtration 86 (1993) 281

**Entrainment**
Ion-exchange membranes in extraction processes 78 (1993) 255

**Entropy**
Thermal membrane potential across anion-exchange membranes in KCl and $KIO_3$ solutions and the transported entropy of ions 82 (1993) 255

**Enzymatic hydrolysis**
Membrane modification to avoid wettability changes due to protein adsorption in an emulsion/membrane bioreactor 80 (1993) 265

**Enzyme electrodes**
The diffusion limited oxidase-based glucose enzyme electrode: relation between covering membrane permeability and substrate response 76 (1993) 261

**Enzyme extraction**
Protein extractions by supported liquid membrane with reversed micelles as carriers 100 (1995) 87

**Enzyme-facilitated transport**
Use of alcohols as cosolvents in enzyme-facilitated transport of organic acids through a liquid membrane 95 (1994) 83

**2,3-Epithiopropyl methacrylate**
Uphill and selective transport of anions through 2,3-epithiopropyl methacrylate–butyl methacrylate– methacryloyloxyethyltrimethylammonium chloride terpolymer membranes 92 (1994) 117

**Epoxidized polysulfone**
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271

**Equilibrium constant**
Equilibrium studies for the interaction of aqueous metal ions and polyacrylic acid by a batch ultrafiltration method 82 (1993) 163

**Equilibrium properties**
Electrotransport of protons and chloride ions in anion exchange membranes for the recovery of acids. Part I. Equilibrium properties 85 (1993) 183

**Erosion**
Shear stress induced erosion of filtration cake studied by a flat rotating disk method. Determination of the critical shear stress of erosion 84 (1993) 229

**ESR of polymers**
Investigation of polymer morphology of integral-asymmetric membranes by ESR and Raman spectroscopy and its comparison with homogeneous films 98 (1995) 201

**Esterification**
The use of catalytically active pervaporation membranes in esterification reactions to simultaneously increase product yield, membrane permselectivity and flux 85 (1993) 291

**Ethanol**
Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1

**Ethanol diafiltration**
Optimization of ultrafiltration and diafiltration processes for albumin production 97 (1994) 71

**Ethanol fermentation**
A novel configuration for packed bed membrane fermenters for maximizing ethanol productivity and concentration 82 (1993) 75

**Ethanol productivity**
Heterogeneous modelling of packed bed fermentor with permselective membranes 76 (1993) 165

**Ethanol rejection**
Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273

**Ethanol–water mixture**
Permselectivities of polysiloxaneimide membrane for aqueous ethanol mixture in pervaporation 93 (1994) 273

**Ethene**
Facilitated transport of ethene across polyelectrolyte gels with silver ions as a carrier 91 (1994) 217

**Ethylbenzene**
A membrane reactor for the production of styrene from ethylbenzene 85 (1993) 229

**Ethylbenzene dehydrogenation**
Modelling of ethylbenzene dehydrogenation in a catalytic membrane reactor 77 (1993) 233

**Ethyl cellulose**
Permeability of ethyl cellulose to light gases. Effect of ethoxy content 92 (1994) 95

**Evapomeation**
Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

**Evaporation**
Extraction of organic components from aqueous streams by vacuum membrane distillation 80 (1993) 21

**Expert system**
Prediction of the flux through an ultrafiltration membrane using fuzzy mathematics 83 (1993) 173

**Extent of separation index**
Applicability of two membranes for improving performance of a membrane reactor 96 (1994) 213

**External forces**
Thermostatics of membrane equilibria 89 (1994) 279

**Extraction**
Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1

**Extraction equilibrium**

Application of a liquid surfactant membrane for the recovery of penicillin G 84 (1993) 271

**Extraction kinetics**
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219

**Extraction of $Cd^{2+}$ and $Pb^{2+}$**
Extraction of $Cd^{2+}$ and $Pb^{2+}$ from dilute aqueous solution using metal-sorbing vesicles in a hollow-fiber cartridge 84 (1993) 107

# F

**Facilitated gas transport**
Facilitated transport of ethene across polyelectrolyte gels with silver ions as a carrier 91 (1994) 217

**Facilitated transport**
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99

Poly(4-vinylpyridine-co-styrene) membranes do not show facilitated transport 77 (1993) 59

**Familial hypercholesterolemia**
The effect of protein adsorption on ApoB removal and selectivity in plasma fractionation by membrane 91 (1994) 97

**Fermentation**
Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1

**Fermentation broth**
Process development of amino acid concentration by a liquid emulsion membrane technique 86 (1993) 181

**Fe sorption**
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21

**Fiber membrane**
Separation of rare earth metals in a hollow-fiber membrane extractor modified by plasma-graft polymerization 96 (1994) 299

Analytical approximations of the effect of a fiber size distribution on the performance of hollow fiber membrane separation devices 98 (1995) 49

Non-invasive observation of flow profiles and polarisation layers in hollow fibre membrane filtration modules using NMR micro-imaging 99 (1995) 207

**Fiber size distribution**
Analytical approximations of the effect of a fiber size distribution on the performance of hollow fiber membrane separation devices 98 (1995) 49

**Fickian diffusion**
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267

**Filter cake**
Analysis of dead-end ultrafiltration based on ultracentrifugation method 81 (1993) 1

**Filtration**
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119

**Filtration mechanism**
Mechanisms of permeate flux decay, solute rejection and concentration polarisation in crossflow filtration of a double chain ionic surfactant dispersion 88 (1994) 177

**Filtration units**
Scaling up pulsatile filtration flow methods to a pilot apparatus equipped with mineral membranes 80 (1993) 13

**Fine-porous model**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Fixed charge**
AC impedance of the bipolar membrane at low and high frequencies 100 (1995) 77

**Fixed-site carrier membrane**
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99

**Flat-leaf cell**
Isotopic fractionation and overall permeation of lithium by a thin-film composite polyamide reverse osmosis membrane 88 (1994) 231

**Flow profiles**
Non-invasive observation of flow profiles and polarisation layers in hollow fibre membrane filtration modules using NMR micro-imaging 99 (1995) 207

**Flowrate**
Constant flowrate blocking laws and an example of their application to dead-end microfiltration of protein solutions 82 (1993) 285

**Flue gas desulphurization**
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191

**Fluid flow**
The effect of shell side hydrodynamics on the performance of axial flow hollow fibre modules 80 (1993) 1

**Fluid mechanics**
Dean vortices with wall flux in a curved channel membrane system 1. A new approach to membrane module design 81 (1993) 127

**Fluorination**
Modification of asymmetric polysulfone membranes by mild surface fluorination Part II. Characterization of the fluorinated surface 94 (1994) 143

**Flux**
On the presence of double log-normal permeability distributions in ultrafiltration membranes 93 (1994) 165

**Flux control**
Calculation of limiting fluxes in the ultrafiltration of colloids and fine particulates 99 (1995) 229

**Flux coupling**
Aroma compound recovery with pervaporation – the effect of high ethanol concentrations 91 (1994) 189

**Flux decline**
Flux decline analysis in ultrafiltration of kraft black liquor 82 (1993) 1

**Flux enhancement**
Enhancement of plasma filtration using the concept of the vortex wave 100 (1995) 121

**Flux measurements**
Solvent fluxes measured on a membrane module 84 (1993) 139

**Foods**
Hydrophobic membrane evaluation and cleaning for osmotic distillation of tomato puree 87 (1994) 181

**Fouling**
Critical flux concept for microfiltration fouling 100 (1995) 259

**Fouling characterization**
Characterization of ultrafiltration membranes by simultaneous streaming potential and flux measurements 87 (1994) 245

**Fouling mechanism**
Cake growth mechanism in cross-flow microfiltration of mineral suspensions 98 (1995) 107

**Fouling tendency**
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131

**Fractals**
Morphology of the rejecting surface of aromatic polyamide membranes for desalination 76 (1993) 175

**Frictional model**
Transport equation for a membrane based on a frictional model 84 (1993) 79

**FT30 membranes**
Parameters influencing the rejection properties of FT30 membranes 95 (1994) 185

**Fuel cell**
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211

**Fullerene**
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259

**Fundamental study**
Permeation of neodymium and praseodymium through supported liquid membranes containing di-(2-ethylhexyl)phosphoric acid as a carrier 81 (1993) 121

**Fuzzy mathematics**
Prediction of the flux through an ultrafiltration membrane using fuzzy mathematics 83 (1993) 173

# G

**Gas adsorption**
Changes in morphology and transport characteristics of polysulfone membranes prepared by different demixing conditions 98 (1995) 191

**Gas and vapor permeation**
Design methodology for a membrane/distillation column hybrid process 99 (1995) 259

Ceramic zeolite composite membranes. Preparation, characterization and gas permeation 82 (1993) 15

**Gas diffusion**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Gas–liquid contactors**
Microporous hollow fibre membrane modules as gas–liquid contactors Part 2. Mass transfer with chemical reaction 78 (1993) 217

**Gas membrane**
Thermally forced membrane desorption–absorption of ammonia 89 (1994) 93

Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1

**Gas permeabilities**
Gas permeabilities and permselectivities of amorphous segmented 6F poly(arylene thioether imide)s and the corresponding poly(arylene sulfone imide)s 90 (1994) 151

**Gas permeability**

Novel highly permselective 6F-poly(amide-imide)s as membrane host for nano-sized catalysts 99 (1995) 29

**Gas permeation**
Gas permeation in ceramic membranes Part II. Modeling of gas permeation through ceramic membrane with one supported layer 97 (1994) 145

**Gas permselectivity**
The gas permeation property in trimethylsilyl-substituted PPO and triphenylsilyl-substituted PPO 97 (1994) 275

**Gas separating membranes**
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159

**Gas separation**
Formation and characterization of supported microporous ceramic membranes prepared by sol-gel modification techniques 99 (1995) 57

Fabrication of ultrathin metallic membranes on ceramic supports by sputter deposition 99 (1995) 89

**Gas solubility**
Solubility of gases and vapors in biological media: a simple correlation 76 (1993) 89

**Gas sorption**
Mixed gas sorption in elastic solids 96 (1994) 241

**Gas transport**
Liquid expulsion permporometry for characterization of porous membranes 95 (1994) 29

**Gas transport in polymers**
Polymers for gas separations: the next decade 94 (1994) 1

**Gelation**
Selection criteria for solvent and gelation medium in the phase inversion process 89 (1994) 215

**Gel layer**
Ultrafiltration in a tubular membrane under simultaneous action of pulsating pressures in permeate and feed solution 83 (1993) 167

**Gel layer formation**
A model and mathematical representation for membrane concentration and purification of macromolecular solutions containing low molecular weight contaminants 79 (1993) 241

**Gel-layer model**
Lactic acid separation from fermentation broths by reverse osmosis and nanofiltration 92 (1994) 185

**Gel polarization model**
Formation and characteristics of dynamic membrane for ultrafiltration of protein in binary protein system 92 (1994) 107

**Gels**
Swelling of ionic and neutral polymer networks in ionic solutions 78 (1993) 1

**Geometric factor**
Gas permeation in ceramic membranes Part I. Theory and testing of ceramic membranes 97 (1994) 139

**Glass membranes**
Sol-gel strategies for controlled porosity inorganic materials 94 (1994) 85

Sorption, transport, and history effects in phenolphthalein-based polysulfone 95 (1994) 147

**Glutamic acid**
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219

**Glutaraldehyde**
Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

**Grafting**
Pervaporation and evaporation characteristics of a new type of ion exchange membrane 78 (1993) 63

**Graft polymerization**
The permeability behavior of polyvinylpyrrolidone-modified porous silica membranes 84 (1993) 151

**Gravitational effects**
Preparation and analysis of thin polysulfone films under high and low gravitational field environments 98 (1995) 27

# H

**$H_2S/CO_2$ selectivity**
Selective removal of $H_2S$ from sour gases with microporous membranes. Part II. A liquid membrane of water-free tertiary amines 82 (1993) 185

**Hardness**
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193

**$Hg(NO_2)_4^{2-}$ anion**
Highly selective and efficient transport of mercury as $Hg(NO^2)_4^{2-}$ ion using $Ba^{2+}$–18-crown-6 as carrier 86 (1993) 29

**Heat effect**
Heat effect in gas permeation, with special reference to spiral-wound modules 76 (1993) 185

**Heat resistance**
Preparation and characterization of sol–gel derived microporous membranes with high thermal stability 96 (1994) 205

**Heats of transport**
Thermo-osmosis of sorbable gases in porous media. Part III. Single gases 76 (1993) 1

**Heavy metals**
The diafiltration method for the study of the binding of macromolecules to heavy metals 89 (1994) 257

**Hemofiltration**
Concentration polarization formation in ultrafiltration of blood and plasma 84 (1993) 293

**Heterogeneous sulfonation**
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45

**High cyanoethylated cellulose**
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

**High pressure**
A modified hollow fiber contained liquid membrane technique for gas separation at high pressures 94 (1994) 163

**Hindered transport**
Analysis of steric hindrance reduction in pulsed protein ultrafiltration 85 (1993) 39

**Hollow fiber**
A modified hollow fiber contained liquid membrane technique for gas separation at high pressures 94 (1994) 163

**Hollow-fiber dialysis membrane**
An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159

**Hollow fiber membrane**
Absorption of carbon monoxide in hollow fiber membranes 96 (1994) 183

**Hollow-fiber membrane modules**
Hollow-fibre pertractor with bulk liquid membrane 80 (1993) 99

**Hollow fiber membranes**
Pressure drops in radial flow membrane modules for ultrafiltration hollow fibers 92 (1994) 131

Study on the effect of spinning conditions and surface treatment on the geometry and performance of polymeric hollow-fibre membranes 100 (1995) 183

**Hollow fiber module**
Novel techniques for oil/water separation 99 (1995) 197

Design of a $CO_2$ scrubber for self-contained breathing systems using a microporous membrane 86 (1993) 119

**Hollow fibers**
On the relation between compaction and mechanical properties for ultrafiltration hollow fibers 77 (1993) 123

The effect of shell side hydrodynamics on the performance of axial flow hollow fibre modules 80 (1993) 1

**Homogeneous catalysis**
Reverse osmosis for separation of reaction solutions in homogeneous catalysis 86 (1993) 37

**Humic substances**
Adsorption of aquatic humic substances on hydrophobic ultrafiltration membranes 97 (1994) 37

**Humidity sensor**
Properties of composite membranes prepared from ion exchange membranes and conducting polymers V. Dependence of EMF of composite membranes prepared from anion exchange membranes and polypyrrole on relative humidity 91 (1994) 199

**Hyaluronic acid esters**
Swelling properties of hyaluronic acid ester membranes 92 (1994) 157

**Hybrid process**
Analysis of a membrane/distillation column hybrid process 93 (1994) 31

Design methodology for a membrane/distillation column hybrid process 99 (1995) 259

**Hybrid systems**
A high temperature catalytic membrane reactor for propane dehydrogenation 77 (1993) 221

**Hydration capacity**
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207

**Hydraulic permeability**
Determination of pore size and pore size distribution 2. Dialysis membranes 96 (1994) 91

**Hydraulic resistance**
Effects of pH and ionic environment on the permeability and rejective properties of an alumina microfiltration membrane for whey proteins 95 (1994) 125

**Hydrocarbons**
Separation of supercritical fluid mixtures of $CO_2$ and petroleum components with an asymmetric polyimide membrane 93 (1994) 165

**Hydrocarbon separation**
Dearomatisation of a refinery kerosene by liquid surfactant membranes – prediction of extraction rates 88 (1994) 69

**Hydrochloric acid**
Electrotransport of HCl in anion exchange membranes for the recovery of acids. Part II. Kinetics of ion transfer at the membrane–solution interface 85 (1993) 195

**Hydrocolloid**
A model of water vapour transmission in hydrocolloid wound dressings 97 (1994) 27

**Hydrodynamics**

Fouling during constant flux crossflow microfiltration of pretreated whey. Influence of transmembrane pressure gradient 80 (1993) 131

**Hydrogels**
Swelling properties of hyaluronic acid ester membranes 92 (1994) 157

**Hydrogen**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Hydrogen absorption**
Synthesis of palladium impregnated alumina membrane for hydrogen separation 96 (1994) 223

**Hydrogen bond**
Structure of chemically modified chitosan membranes and their characteristics of permeation and separation of aqueous ethanol solutions 88 (1994) 243

**Hydrogen permeation**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Hydrogen permselectivity**
Characterization of hydrogen-permselective microporous ceramic membranes 96 (1994) 275

**Hydrogen separation**
Chemical vapor deposition of hydrogen-permselective silica films on porous glass supports from tetraethylorthosilicate 85 (1993) 279

**Hydrogen sulfide**
Catalytic platinum-based membrane reactor for removal of $H_2S$ from natural gas streams 94 (1994) 111

**Hydrolysis**
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21

**Hydrophilic**
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191

**Hydrophilic membranes**
Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273

**Hydrophobic**
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191

**Hydrophobic–hydrophilic membrane**
An experimental study of isothermal and non-isothermal phenomena in a hydrophobic–hydrophilic membrane system 88 (1994) 223

**Hydrophobic membrane**
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209

Gas membrane extraction of ethanol by glycols: Experiments and modelling 98 (1995) 1

**Hydroxypropyl cellulose acetate**
Studies on distribution and reverse osmosis properties of cellulose acetate derivatives for organic compounds 85 (1993) 1

# I

**Iminodiacrtate group**
High collection rate of Pd in hydrochloric acid medium using chelating microporous membrane 95 (1994) 63

**Immersion precipitation**
Mass transfer and thermodynamics during immersion precipitation for a two-polymer system Evaluation with the system PES–PVP–NMP–water 90 (1994) 231

**Immobilization**
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249

**Immobilization of glucose oxidase**
Immobilization of glucose oxidase using acrylonitrile copolymer membranes 88 (1994) 279

**Immobilized copper ions**
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271

**Immobilized enzymes**
Effect of temperature gradients on the activity of enzymes immobilized on natural polymeric matrices 78 (1993) 69

**Impedance**
AC impedance of the bipolar membrane at low and high frequencies 100 (1995) 77

**Impedance spectroscopy**
A study of stability of supported liquid membranes by impedance spectroscopy 93 (1994) 255

**Induced**
Dean vortices with wall flux in a curved channel membrane system. 6. Two dimensional magnetic resonance imaging of the velocity field in a curved impermeable slit 81 (1993) 151

**Inert gases**

Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45

**Infrared and X-ray photoelectron spectroscopy**
Fouling during constant flux crossflow microfiltration of pretreated whey. Influence of transmembrane pressure gradient 80 (1993) 131

**Inorganic membrane**
Ceramic-zeolite composite membranes and their application for separation of vapor/gas mixtures 90 (1994) 1

**Inorganic membranes**
Fabrication of ultrathin metallic membranes on ceramic supports by sputter deposition 99 (1995) 89

**In situ complexation**
Dehydration of water–pyridine mixture through poly(acrylonitrile-*co*-acrylic acid) membrane by pervaporation 98 (1995) 183

**Integrally-skinned asymmetric membrane**
Modification of asymmetric polysulfone membranes by mild surface fluorination Part II. Characterization of the fluorinated surface 94 (1994) 143

**Interaction**
Interaction between anionic polyelectrolytes and anion exchange membranes and change in membrane properties 100 (1995) 229

**Interface resistance**
Considerations on interface resistances in the process of permeation of dense membranes 77 (1993) 69

**Interfacial polymerization**
Formation and characterization of polyamide membranes via interfacial polymerization 93 (1994) 175

**Internally staged**
Gas separation in an internally staged permeator: experimental results and theoretical predictions 80 (1993) 147

**Interpenetrating polymer networks**
Photopolymerization and characterization of methacrylate-based reactive composite membranes 100 (1995) 171

**Intrasegmental mobility**
Dependence of the gas permeability of some polyimide isomers on their intrasegmental mobility 77 (1993) 41

**Intrinsic kinetics**
A membrane reactor for the production of styrene from ethylbenzene 85 (1993) 229

**Intrinsic rejection**
Micellar ultrafiltration in an unstirred batch cell at constant flux 86 (1993) 241

**Ion–dipole complexes**
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207

**Ion–dipole interaction**
Pervaporation of water–acetic acid mixture through poly(4-vinylpyridine-co-acrylonitrile) membrane 85 (1993) 13

**Ion exchange**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

**Ion exchange capacity**
Membrane potential and solute separation studies on zirconium phosphate membranes 82 (1993) 141

**Ion-exchange carrier**
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219

**Ion-exchange membrane**
Separation of rare earth metals in a hollow-fiber membrane extractor modified by plasma-graft polymerization 96 (1994) 299

Water transport across polystyrenesulfonate/alumina composite membranes 99 (1995) 185

**Ion fluxes**
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283

**Ionic mobilities**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Ionic networks**
Swelling of ionic and neutral polymer networks in ionic solutions 78 (1993) 1

**Ionic percolation**
Structure and properties of hydrocarbon ionomer membranes. 1. Poly(methyl methacrylate-co-methacrylic acid) 82 (1993) 83

**Ionic strength**
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223

**Ionomer**
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161

Gas-transport properties of sulfonated polystyrenes 95 (1994) 51

**Ionomer membranes**
Dehydration of amines and diamines by pervaporation with ionomer and PVA-based membranes 81 (1993) 97

**Ion transport**
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99

**IR gas analysis**
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87

**Irreversible thermodynamics**
Modelling of protein transmission through ultrafiltration membranes 97 (1994) 83

**IR spectroscopy of anodic alumina**
New and modified anodic alumina membranes Part I. Thermotreatment of anodic alumina membranes 98 (1995) 131

**Isobaric flow**
Thermo-osmosis of sorbable gases in porous media. Part III. Single gases 76 (1993) 1

**Isobutane dehydrogenation**
Catalytic isobutane dehydrogenation in a dense silica membrane reactor 77 (1993) 207

**Isothermal phenomena**
An experimental study of isothermal and non-isothermal phenomena in a hydrophobic–hydrophilic membrane system 88 (1994) 223

**Isotopic fractionation**
Isotopic fractionation and overall permeation of lithium by a thin-film composite polyamide reverse osmosis membrane 88 (1994) 231

***I–V* responses**
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283

# K

**Kapton®**
The effect of film thickness on oxygen sorption and transport in dry and water-saturated Kapton® polyimide 89 (1994) 131

**Kinetics**
Electrotransport of HCl in anion exchange membranes for the recovery of acids. Part II. Kinetics of ion transfer at the membrane–solution interface 85 (1993) 195

**Kraft black liquor**
Flux decline analysis in ultrafiltration of kraft black liquor 82 (1993) 1

***K–ε* turbulence model**
Computer simulations of mass transfer in the concentration boundary layer over ultrafiltration membranes 85 (1993) 139

# L

**Lactic acid**
Lactic acid separation from fermentation broths by reverse osmosis and nanofiltration 92 (1994) 185

***β*-Lactoglobulin**
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21

**Laminar flow**
Enhancement of plasma filtration using the concept of the vortex wave 100 (1995) 121

**Laminar viscous flow**
An elliptic filtration variation on Poiseuille-type laminar solutions of Navier–Stokes equations 91 (1994) 153

**Landfill gas**
Treatment of landfill gas by gas permeation – pilot plant results and comparison to alternatives® 87 (1994) 107

**Lanthane recovery**
Concentration of the extraction fluid from sulfuric acid treatment of phosphogypsum by membrane distillation 78 (1993) 277

**Latex membrane**
Pervaporation with latex membranes III. Sorption and pervaporation properties: a comparison between latex and solvent cast membranes 89 (1994) 9

Pervaporation with latex membranes. I. Latex membrane preparation and characterization 82 (1993) 27

**Layer permeability**
The permeability of biofouling layers on membranes 87 (1994) 199

**Layer redispersion**
The permeability of biofouling layers on membranes 87 (1994) 199

**LDL-cholesterol removal**
The effect of protein adsorption on ApoB removal and selectivity in plasma fractionation by membrane 91 (1994) 97

**Lead ions**
Carrier-mediated transport through liquid membranes Studies on transport of nickel, cadmium and lead ions using tetradentate oxoiminato Schiff base ligands as carriers 93 (1994) 149

**Lead transport**
Selective membrane transport of $Pb^{2+}$ ion by a cooperative carrier composed of 18-crown-6, tetrabutylammonium iodide and palmitic acid 95 (1994) 21

**Lewis-type cell**
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219

**Life-support system**
Design of a $CO_2$ scrubber for self-contained breathing systems using a microporous membrane 86 (1993) 119

**Ligand exchange model**
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131

**Limiting current**
Intensification of electrodialysis based on electroosmosis of the second kind 79 (1993) 199

**Limiting current density**
Distribution of electrodialytic condition in an electrodialyzer and limiting current density 92 (1994) 217

**Limiting flux**
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185

**Linear stability analysis**
Dean vortices with wall flux in a curved channel membrane system 1. A new approach to membrane module design 81 (1993) 127

**Lipase**
On-line water removal during enzymatic triacylglycerol synthesis by means of pervaporation 80 (1993) 199

**Lipase immobilization**
The activity of lipase from *Rhizopus* sp. in native form and after immobilization on hollow-fiber membranes 97 (1994) 209

**Liposomes**
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49

**Liquid chromatography**
Studies on distribution and reverse osmosis properties of cellulose acetate derivatives for organic compounds 85 (1993) 1

**Liquid crystalline polymers**
Organic vapor sorption and transport in a thermotropic liquid crystalline polyester 94 (1994) 67

**Liquid displacement porosity**
Porosity and protein adsorption of four polymeric microfiltration membranes 76 (1993) 61

**Liquid emulsion membrane**
Process development of amino acid concentration by a liquid emulsion membrane technique 86 (1993) 181

Comparison of the separation of lactic acid and L-leucine by liquid emulsion membranes 80 (1993) 85

**Liquid membrane**
Continued studies of an electroconvective liquid membrane for gas separation 99 (1995) 249

Analysis of permeation rate of cobalt ions across a supported liquid membrane containing HEH(EHP) 100 (1995) 69

**Liquid permeability and separations**
Diagnosis of membrane fouling using a rotating annular filter. 1. Cell culture media 77 (1993) 1

Pore size distribution determination from liquid permeation through microporous membranes 99 (1995) 127

**Liquid pertraction**
Kinetic aspects of copper (II) transport across liquid membrane containing LIX-860 as a carrier 78 (1993) 239

**Liquid sorption**
Anomalous sorption and pervaporation of aqueous organic mixtures by poly(vinyl acetal) membranes 95 (1994) 207

**Liquid surfactant membrane**
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163

Application of a liquid surfactant membrane for the recovery of penicillin G 84 (1993) 271

**Lithium chloride**
Isotopic fractionation and overall permeation of lithium by a thin-film composite polyamide reverse osmosis membrane 88 (1994) 231

**L-Leucine**
Comparison of the separation of lactic acid and L-leucine by liquid emulsion membranes 80 (1993) 85

**Low voltage scanning electron microscopy**
Low voltage scanning electron microscopy in membrane research 88 (1994) 103

# M

**Macrocycles**
Urea transport through supported liquid membranes using synthetic carriers 82 (1993) 277

**Macromolecular solutions**
The behavior of suspensions and macromolecular solutions in cross-flow microfiltration 96 (1994) 1

**Macroporous membranes**
Structural characteristics of a macroporous membrane used for HBs antigen removal 81 (1993) 263

**Macrosolutes**
Cake resistance and solute rejection in bacterial microfiltration: The role of the extracellular matrix 79 (1993) 35

**Macrovoid formation**
Effect of evaporation step on macrovoid formation in wet-cast polymeric membranes 91 (1994) 265

**Macrovoids**
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281

**Magnetic resonance imaging**
Dean vortices with wall flux in a curved channel membrane system. 6. Two dimensional magnetic resonance imaging of the velocity field in a curved impermeable slit 81 (1993) 151

**Manometric techniques**
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65

**Mass ratio of nonsolvent-additive to solvent**
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233

**Mass transfer**
Mass transfer coefficient and retention of PEGs in low pressure cross-flow ultrafiltration through asymmetric membranes 99 (1995) 1

**Mass transfer coefficient**
Some global transport properties of polysulfone capillary UF membranes 90 (1994) 191

**Mass transfer correlations**
Baffled membrane modules made with hollow fiber fabric 85 (1993) 265

**Mass transfer model**
Transport of lactic acid through reverse osmosis and nanofiltration membranes 85 (1993) 205

**Mass transfer resistance**
Transport of $Te^{4+}$ through liquid surfactant membrane using D2EHPA as the carrier 96 (1994) 233

Facilitated transport of olefins in $Ag^+$-containing polymer membranes 91 (1994) 13

**Mass transport**
Dynamic characterization and transport mechanisms of two inorganic membranes for nanofiltration 97 (1994) 155

**Mathematical model**
The performance of a rotating filter 1. Theoretical analysis of the flow in an annulus with a rotating inner porous wall 99 (1995) 241

**Mathematical modeling**
High-temperature separation of binary gas mixtures using microporous ceramic membranes 77 (1993) 85

Mathematical modelling of permeate flow in multichannel ceramic membrane 100 (1995) 111

**Mathematical modelling (hydrodynamic models)**
Diffusive flows in ultrafiltration and their effect on membrane retention properties 80 (1993) 73

**Maxwell pressure**
A mechanism for water flow in bipolar membranes 82 (1993) 65

**Maxwell–Stefan theory**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part II. Concentration polarization, coupled diffusion and the influence of the porous support layer 89 (1994) 153

**Mean pore radius**
Gas permeation in ceramic membranes Part I. Theory and testing of ceramic membranes 97 (1994) 139

**Mechanical equilibrium**
Thermostatics of membrane equilibria 89 (1994) 279

**Mechanical properties of composite membranes**
Optimization of the mechanical properties of polymeric composite membranes prepared via emulsion pathways 81 (1993) 191

**Mechano-chemical potential**
Thermostatics of membrane equilibria 89 (1994) 279

**Membrane**
Photopolymerization and characterization of methacrylate-based reactive composite membranes 100 (1995) 171

**Membrane aging**
Pervaporation with latex membranes II. Pervaporation properties and aging effect 87 (1994) 257

**Membrane–assisted reactor**
Membrane-assisted dehydrogenation of *n*-butane Influence of membrane properties on system performance 93 (1994) 193

**Membrane bioreactor**
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249

Heterogeneous modelling of packed bed fermentor with permselective membranes 76 (1993) 165

**Membrane-bound enzymes**
Biofunctional membranes Part IV. Active-site structure and stability of an immobilized enzyme, papain, on modified polysulfone membranes studied by electron paramagnetic resonance and kinetics 91 (1994) 47

**Membrane cascades**
A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51

**Membrane casting solution**
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233

**Membrane characterization**
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217

**Membrane charge**
Variation of membrane charge of nylon 6 with pH 92 (1994) 229

**Membrane cleaning**
Cleaning of ultrafiltration membranes after treatment of oily waste water 87 (1994) 71

**Membrane desorption–absorption**
Thermally forced membrane desorption–absorption of ammonia 89 (1994) 93

**Membrane diffusion control**
Membrane diffusion-controlled kinetics of ionic transport 81 (1993) 287

**Membrane distillation**

Transport mode of membrane distillation process and the VMD method to determine the membrane configurational number 97 (1994) 1

**Membrane electrodes**
Multiple steady states in ionic membranes with negative conductance 99 (1995) 39

**Membrane enclosed catalytic reactor**
Analysis of a membrane enclosed catalytic reactor for butane dehydrogenation 77 (1993) 197

**Membrane evaluation**
Performance evaluation of surface hydrophilized novel ultrafiltration membranes using aqueous proteins 99 (1995) 149

**Membrane extraction**
Kinetic aspects of copper (II) transport across liquid membrane containing LIX-860 as a carrier 78 (1993) 239

**Membrane fabrication**
Development of a defect-free 6FDA-durene asymmetric hollow fiber and its composite hollow fibers 88 (1994) 21

**Membrane filtration**
Critical flux concept for microfiltration fouling 100 (1995) 259

**Membrane formation**
Changes in morphology and transport characteristics of polysulfone membranes prepared by different demixing conditions 98 (1995) 191

**Membrane fouling**
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263

**Membrane hydrodynamics**
A new concept of mass transfer coefficient in reverse osmosis — practical applications 86 (1993) 145

**Membrane modification**
Experimental studies on pore size change of porous ceramic membranes after modification 79 (1993) 65

Membrane modification to avoid wettability changes due to protein adsorption in an emulsion/membrane bioreactor 80 (1993) 265

**Membrane module design**
Dean vortices with wall flux in a curved channel membrane system. 6. Two dimensional magnetic resonance imaging of the velocity field in a curved impermeable slit 81 (1993) 151

**Membrane morphology**
Gas permeation characteristics of polymer–zeolite mixed matrix membranes 91 (1994) 77

**Membrane performance**
Prediction of the flux through an ultrafiltration membrane using fuzzy mathematics 83 (1993) 173

**Membrane permeator**
Use of an internally staged permeator in the enrichment of methane from biogas 78 (1993) 181

**Membrane photoconductance**
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259

**Membrane pore size**
Structural study of microporous polypropylene hollow fiber membranes made by the melt-spinning and cold-stretching method 93 (1994) 209

**Membrane porosity**
Structural study of microporous polypropylene hollow fiber membranes made by the melt-spinning and cold-stretching method 93 (1994) 209

**Membrane potential**
Photoinduced membrane potential change of methacrylate polymers containing various spiropyrans 93 (1994) 69

pH and ionic strength effects on the performance of ceramic membranes in water filtration 93 (1994) 91

**Membrane preparation**
Mass transfer and thermodynamics during immersion precipitation for a two-polymer system Evaluation with the system PES–PVP–NMP–water 90 (1994) 231

**Membrane preparation and structure**
Characterization of hemodialysis membranes by inverse size exclusion chromatography 99 (1995) 217

Metal composite membranes for hydrogen separation 94 (1994) 299

**Membrane process**
Flowsheet simulation of ultrafiltration and reverse osmosis processes 91 (1994) 111

**Membrane process design**
Membrane processes for the removal of acid gases from natural gas. II. Effects of operating conditions, economic parameters, and membrane properties 81 (1993) 239

**Membrane properties**
Membrane-assisted dehydrogenation of *n*-butane Influence of membrane properties on system performance 93 (1994) 193

**Membrane–protein interactions**
The effect of protein adsorption on ApoB removal and selectivity in plasma fractionation by membrane 91 (1994) 97

**Membrane reactor**
Applicability of two membranes for improving performance of a membrane reactor 96 (1994) 213

Catalytic decomposition of ammonia in a membrane reactor 96 (1994) 259

Catalytic isobutane dehydrogenation in a dense silica membrane reactor 77 (1993) 207

**Membrane selection**
Aqueous–organic membrane bioreactors Part II. Breakthrough pressure measurement 97 (1994) 13

**Membrane selectivity**
Pervaporation of methanol–MTBE mixtures through modified poly(phenylene oxide) membranes 91 (1994) 283

**Membrane separation**
Precise analytical model of hollow fiber reverse osmosis modules 85 (1993) 241

**Membrane separation bioreactor**
Performance of membrane separation bioreactor at various temperatures for domestic wastewater treatment 87 (1994) 119

**Membrane separation processes**
Polymers for gas separations: the next decade 94 (1994) 1

**Membrane stability**
Supported liquid membranes for enantioselective transport of amino acid mediated by chiral crown ether – effect of membrane solvent on transport rate and membrane stability 84 (1993) 241

**Membrane structure**
Physical modification of poly[1-(trimethylsilyl)-1-propyne] membranes for gas separation 94 (1994) 183

**Membrane surface pore size**
Effects of size and compressibility of suspended particles and surface pore size of membrane on flux in crossflow filtration 81 (1993) 173

**Membrane transport**
Linear approximations for the description of solute flux through permselective membranes 95 (1994) 179

**Membrane modification**
The anti-fouling action of polymers preadsorbed on ultrafiltration and microfiltration membranes 76 (1993) 281

**Mercury porosimetry**
Evaluation of selected methods for the characterisation of ceramic membranes 89 (1994) 119

**Mercury transport**
Highly selective and efficient transport of mercury as $Hg(NO^2)^{2-}{}_4$ ion using $Ba^{2+}$–18-crown-6 as carrier 86 (1993) 29

**Mesopores**
Permporometry study on the size distribution of active pores in porous ceramic membranes 83 (1993) 221

**Metal alkoxide**
Separation of hydrogen from thermochemical processes using zirconia–silica composite membrane 97 (1994) 91

**Metal bioprecipitation**
The use of bacteria immobilized in tubular membrane reactors for heavy metal recovery and degradation of chlorinated aromatics 100 (1995) 249

**Metal colloids**
Characterization of clean and fouled membranes using metal colloids 88 (1994) 93

**Metal complexation**
Gamma alumina nanofiltration membrane Application to the rejection of metallic cations 91 (1994) 87

**Metal-dispersed microporous membrane**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Metal ions**
Equilibrium studies for the interaction of aqueous metal ions and polyacrylic acid by a batch ultrafiltration method 82 (1993) 163

**Metal ion transport**
Extraction and membrane transport of metal ions by some synthetic 9,10-anthraquinone and 9-anthrone derivatives. A selective system for calcium transport 78 (1993) 115

**Metal membranes**
Fabrication of ultrathin metallic membranes on ceramic supports by sputter deposition 99 (1995) 89

**Metal-sorbing vesicles**
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49

**Methacryloyloxyethyltrimethylammonium chloride**
Uphill and selective transport of anions through 2,3-epithiopropyl methacrylate–butyl methacrylate–methacryloyloxyethyltrimethylammonium chloride terpolymer membranes 92 (1994) 117

**Methane enrichment**
Use of an internally staged permeator in the enrichment of methane from biogas 78 (1993) 181

**Methanol**
Pervaporation of methanol–MTBE mixtures through modified poly(phenylene oxide) membranes 91 (1994) 283

**Methylcellulose**
Water vapor permeability and diffusivity through methylcellulose edible films 91 (1994) 125

**Methylcyclohexane**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Methyl methacrylate**
Molecular weight distribution of methyl methacrylate grafted onto a microfiltration membrane by radiation-induced graft polymerization 85 (1993) 71

**Methyl *tert*-butyl ether**
Pervaporation of methanol–MTBE mixtures through modified poly(phenylene oxide) membranes 91 (1994) 283

**Micellizing solute**
Micellar ultrafiltration in an unstirred batch cell at constant flux 86 (1993) 241

**Microbial degradation**
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

**Microcapsules**
Extraction of hexavalent chromium ions with polyurea microcapsules 89 (1994) 1

**Microcrystalline lamella**
Structural study of microporous polypropylene hollow fiber membranes made by the melt-spinning and cold-stretching method 93 (1994) 209

**Microemulsions**
Electrical and chemical demulsification techniques for microemulsion liquid membranes 91 (1994) 231

**Microencapsulation**
Extraction of hexavalent chromium ions with polyurea microcapsules 89 (1994) 1

**Microfiltration**
Enhancement of plasma filtration using the concept of the vortex wave 100 (1995) 121

**Microfiltration, dead-end**
Constant flowrate blocking laws and an example of their application to dead-end microfiltration of protein solutions 82 (1993) 285

**Microfiltration membranes**
Determination of pore size and pore size distribution 3. Filtration membranes 96 (1994) 131

**Micropore**
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59

**Micropore field**
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59

**Microporous**
Formation and characterization of supported microporous ceramic membranes prepared by sol-gel modification techniques 99 (1995) 57

**Microporous and porous membranes**
Pore size distribution determination from liquid permeation through microporous membranes 99 (1995) 127

The sol–gel approach to prepare candidate microporous inorganic membranes for membrane reactors 77 (1993) 137

**Microporous membrane**
Novel techniques for oil/water separation 99 (1995) 197

The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285

**Microporous polysulfone hollow fibers**
Affinity membranes prepared from hydrophilic coatings on microporous polysulfone hollow fibers 90 (1994) 69

**Mineral membrane**
Effects of pH and ionic environment on the permeability and rejective properties of an alumina microfiltration membrane for whey proteins 95 (1994) 125

Scaling up pulsatile filtration flow methods to a pilot apparatus equipped with mineral membranes 80 (1993) 13

**Mixed carrier**
Liquid membrane transport of alkali metal cations with mixed carrier systems composed of phosphoric acid–crown ether having a side arm 85 (1993) 175

**Mixed gases**
Comparison of mixed and pure gas permeation characteristics for $CO_2$ and $CH_4$ in copolymers and blends containing methyl methacrylate units 77 (1993) 49

**Mixed matrix membrane**
Gas permeation characteristics of polymer–zeolite mixed matrix membranes 91 (1994) 77

**Mixture permeation**
Elucidating the mechanism(s) of gas transport in poly[1-(trimethylsilyl)-1-propyne] (PTMSP) membranes 86 (1993) 67

**Mixture solubilities**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part I. Prediction of mixture solubilities in the dense active layer using the UNIQUAC model 89 (1994) 143

**Mobility**
Electrotransport of sulphuric acid in special anion exchange membranes for the recovery of acids 97 (1994) 99

**Model compounds**
Chemical composition of thin-film composite reverse osmosis membranes made from poly-2-vinylimidazoline 78 (1993) 283

**Model edible film**
Water vapor permeability and diffusivity through methylcellulose edible films 91 (1994) 125

**Modeling**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

Modelling the effects of particle polydispersity in crossflow filtration 99 (1995) 77

Swelling of ionic and neutral polymer networks in ionic solutions 78 (1993) 1

**Modified**
Specialty polymeric membranes. I. Modified polybutadiene membranes for alcohol separation 76 (1993) 255

**Modified membrane**
Immobilization of glucose oxidase using acrylonitrile copolymer membranes 88 (1994) 279

**Modified polybutadiene**
Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23

**Module design**
Pressure drops in radial flow membrane modules for ultrafiltration hollow fibers 92 (1994) 131

**Module performance**
Some considerations on mass-transfer resistances in solution–diffusion-type membrane processes 87 (1994) 171

**Modules**
Turbulent transport in membrane modules by CFD simulation in two dimensions 100 (1995) 139

**Molecular sieve**
Permselectivity of zeolite filled polysulfone gas separation membranes 93 (1994) 283

**Molecular weight cut-off**
A comparative study of techniques used for porous membrane characterization: pore characterization 87 (1994) 35

**Molecular weight distribution**
Molecular weight distribution of methyl methacrylate grafted onto a microfiltration membrane by radiation-induced graft polymerization 85 (1993) 71

**Moment analysis**
Steady-state permeate flux of cross-flow microfiltration 98 (1995) 97

**Monovalent and divalent cations**
Transport competition between monovalent and divalent cations through cation-exchange membranes. Exchange isotherms and kinetic concepts 96 (1994) 167

**Morphological studies**
Dense polymer film and membrane formation via the dry-cast process Part II. Model validation and morphological studies 94 (1994) 281

Changes in morphology and transport characteristics of polysulfone membranes prepared by different demixing conditions 98 (1995) 191

**Multichannel ceramic membrane**
Mathematical modelling of permeate flow in multichannel ceramic membrane 100 (1995) 111

**Multicomponent liquid membranes**
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

**Multicomponent mixture**
An approximate solution for countercurrent gas permeation separating multicomponent mixtures 95 (1994) 11

Aroma compound recovery with pervaporation – the effect of high ethanol concentrations 91 (1994) 189

**Multicomponent transport**
An experimental study of diffusion and convection of multicomponent gases through catalytic and non-catalytic membranes 92 (1994) 275

**Multiple steady state**
Multiple steady states in ionic membranes with negative conductance 99 (1995) 39

# N

**Nafion**
Nafion supported cationic palladium complexes as catalysts 87 (1994) 149

**Nafion membranes**
Facilitated transport of ethene through Nafion membranes. Part II. Glycerine treated, water swollen membranes 85 (1993) 99

**Nanofiltration**
Preparation of a $\gamma$-alumina nanofiltration membrane 97 (1994) 167

**Nanofiltration membranes**
Fouling and retention of nanofiltration membranes 98 (1995) 249

**Nano-sized catalyst**
Novel highly permselective 6F-poly(amide-imide)s as membrane host for nano-sized catalysts 99 (1995) 29

**Natural gas**
Catalytic platinum-based membrane reactor for removal of $H_2S$ from natural gas streams 94 (1994) 111

**Natural gas purification**
Membrane processes for the removal of acid gases from natural gas. I. Process configurations and optimization of operating conditions 81 (1993) 209

**Natural gas upgrading**
Membrane processes for the removal of acid gases from natural gas. II. Effects of operating conditions, economic parameters, and membrane properties 81 (1993) 239

***n*-Butane**
Membrane-assisted dehydrogenation of *n*-butane Influence of membrane properties on system performance 93 (1994) 193

**Neodymium**
Permeation of neodymium and praseodymium through supported liquid membranes containing di-(2-ethylhexyl)phosphoric acid as a carrier 81 (1993) 121

**Nernst–Planck equation**
Combined film and membrane diffusion-controlled transport of ions through charged membrane 90 (1994) 109

Theoretical analysis of neutralization dialysis in the three-compartment membrane cell 98 (1995) 13

**Network approach**
Application of network thermodynamics to the computer simulation of non-stationary ionic transport in membranes 90 (1994) 173

**Neural networks**
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263

**Neutralization reaction**

Theoretical analysis of neutralization dialysis in the three-compartment membrane cell 98 (1995) 13

**Nickel**
Modelling of the competitive permeation of cobalt and nickel in a di(2-ethylhexyl)phosphoric acid supported liquid membrane process 85 (1993) 157

**Nickel ion**
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163

Carrier-mediated transport through liquid membranes Studies on transport of nickel, cadmium and lead ions using tetradentate oxoiminato Schiff base ligands as carriers 93 (1994) 149

**Nitrate media**
Permeation of neodymium and praseodymium through supported liquid membranes containing di-(2-ethylhexyl)phosphoric acid as a carrier 81 (1993) 121

**Nitric acid**
Electrodialysis in the separation of dilute aqueous solutions of sulfuric and nitric acids 76 (1993) 147

**Nitrogen adsorption–desorption**
Permporometry study on the size distribution of active pores in porous ceramic membranes 83 (1993) 221

**NMR micro-imaging**
Non-invasive observation of flow profiles and polarisation layers in hollow fibre membrane filtration modules using NMR micro-imaging 99 (1995) 207

**$NO_2$ and CO**
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87

**NO detoxication**
Reverse osmosis for separation of reaction solutions in homogeneous catalysis 86 (1993) 37

**Non-isothermal transport**
Carrier-mediated, thermal energy coupled, non-isothermal membrane transport Part 1. Transfer of the solute boric acid 93 (1994) 217

**Nonporous films**
Design of urea-permeable anion-exchange membrane by radiation-induced graft polymerization 81 (1993) 295

**Nonsolvent additive**
Polycarbonate membrane prepared via a wet phase inversion method for oxygen enrichment from air 86 (1993) 103

**Non-steady state kinetics**
Investigation of the rate-limiting step of coupled copper ion transport through liquid membranes by means of variable speed experiments 90 (1994) 101

**Nuclear filters**
Structure, physical and chemical properties and applications of nuclear filters as a new class of membranes 79 (1993) 285

**Nuclear track-etched membranes**
The anti-fouling action of polymers preadsorbed on ultrafiltration and microfiltration membranes 76 (1993) 281

**Numerical analysis**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Numerical simulation**
Turbulent transport in membrane modules by CFD simulation in two dimensions 100 (1995) 139

**Numerical technique**
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185

**Nylon 6 membrane**
Variation of membrane charge of nylon 6 with pH 92 (1994) 229

# O

**Octamethyltrisiloxane**
Characteristics of plasma polymerized membrane from octamethyltrisiloxane and its application to the pervaporation of ethanol–water mixture 88 (1994) 85

**Oil/water separation**
Novel techniques for oil/water separation 99 (1995) 197

**Oily waste water**
Cleaning of ultrafiltration membranes after treatment of oily waste water 87 (1994) 71

**Olefin permeability**
Facilitated transport of olefins in $Ag^+$-containing polymer membranes 91 (1994) 13

**Olefin separation**
Separation of gaseous olefin isomers using facilitated transport membranes 82 (1993) 229

**One-compressor permeators**
A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51

**Onsager reciprocity**
Transport of electrolytes across cation-exchange membranes. Test of Onsager reciprocity in zero-current processes 78 (1993) 155

**Operating pressure**

On the relation between compaction and mechanical properties for ultrafiltration hollow fibers 77 (1993) 123

**Optical fiber**
An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159

**Optical resolution**
Optical resolution of amino acids by ultrafiltration membranes containing serum albumin 93 (1994) 157

**Optimization**
Optimization of multicomponent pervaporation for removal of volatile organic compounds from water 97 (1994) 109

**Organic/organic separation**
Pervaporation of alcohol–toluene mixtures through polymer blend membranes of poly(acrylic acid) and poly(vinyl alcohol) 90 (1994) 265

**Organic separations**
Design methodology for a membrane/distillation column hybrid process 99 (1995) 259

**Organophilic membrane**
Coupling phenomena in the removal of chlorinated hydrocarbons by means of pervaporation 78 (1993) 135

**Orthogonal collocation**
Membrane diffusion-controlled kinetics of ionic transport 81 (1993) 287

**Oscillations and excitable membranes**
Multiple steady states in ionic membranes with negative conductance 99 (1995) 39

**Oscillatory flow**
Yeast cell microfiltration: Flux enhancement in baffled and pulsatile flow systems 80 (1993) 59

**Osmosis**
Formation and characterization of polyamide membranes via interfacial polymerization 93 (1994) 175

**Osmotic distillation**
Hydrophobic membrane evaluation and cleaning for osmotic distillation of tomato puree 87 (1994) 181

**Osmotic pressure**
Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273

**Osmotic-pressure model**
Theory of concentration polarization in cross-flow ultrafiltration: gel-layer model and osmotic-pressure model 91 (1994) 173

**Oxalate**
A microporous zirconia membrane prepared by the sol–gel process from zirconyl oxalate 86 (1993) 95

**Oxide**
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119

**Oxygen**
Preparation of pore-free disk of $La_{1-x}Sr_xCoO_3$ mixed conductor and its oxygen permeability 92 (1994) 239

**Oxygen/nitrogen permselectivity**
Improvement of oxygen/nitrogen permselectivity of poly[1-(trimethylsilyl)-1-propyne] membrane by plasma polymerization 90 (1994) 81

**Oxygen enrichment**
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159

**Oxygen sorption**
The effect of film thickness on oxygen sorption and transport in dry and water-saturated Kapton® polyimide 89 (1994) 131

**Oxygen transport**
The effect of film thickness on oxygen sorption and transport in dry and water-saturated Kapton® polyimide 89 (1994) 131

**Ozonation**
Effect of adsorption of organic matter on fouling of ultrafiltration membranes 84 (1993) 61

# P

**Palladium**
Nafion supported cationic palladium complexes as catalysts 87 (1994) 149

**Palladium/silver alloys**
Metal composite membranes for hydrogen separation 94 (1994) 299

**Palladium extraction**
Extraction of palladium by liquid surfactant membranes using new surfactants 84 (1993) 249

**Palladium impregnated inorganic membrane**
Synthesis of palladium impregnated alumina membrane for hydrogen separation 96 (1994) 223

**Palladium membrane**
A membrane reactor for the production of styrene from ethylbenzene 85 (1993) 229

**Palladium recovery**
High collection rate of Pd in hydrochloric acid medium using chelating microporous membrane 95 (1994) 63

**Palladium–silver alloy membranes**
Preparation of palladium–silver alloy membranes for hydrogen separation by the spray pyrolysis method 78 (1993) 247

**Palmitic acid**
Selective membrane transport of $Pb^{2+}$ ion by a cooperative carrier composed of 18-crown-6, tetrabutylammonium iodide and palmitic acid 95 (1994) 21

**Partial molar volume**
Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45

**Partial rejection**
Ultrafiltration model for partial solute rejection in the limiting flux region 95 (1994) 277

**Particle**
Fouling and selectivity of membranes during separation of $\beta$-casein 88 (1994) 263

**Particle-aggregation**
Particle aggregation at the membrane surface in crossflow microfiltration 84 (1993) 171

**Particle size**
Effects of size and compressibility of suspended particles and surface pore size of membrane on flux in crossflow filtration 81 (1993) 173

**Particulate emissions**
Application of membrane gas separation to oxygen enrichment of diesel engines 87 (1994) 159

**Particulate suspension feed**
Diagnosis of membrane fouling using a rotating annular filter. 2. Dilute particle suspensions of known particle size 77 (1993) 23

**Pd–Ag alloys**
Simultaneous deposition of Pd and Ag on porous stainless steel by electroless plating 77 (1993) 181

**Pd–Ag membrane**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Penicillinase**
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131

**Penicillin G**
Continuous extraction of penicillin G with liquid surfactant membrane using Vibro Mixer 93 (1994) 61

**Percolation**
Structure and aging characteristics of $H_2$-permselective $SiO_2$–Vycor membranes 87 (1994) 281

**Performance**
Study on the effect of spinning conditions and surface treatment on the geometry and performance of polymeric hollow-fibre membranes 100 (1995) 183

**Performance and structure**
Study of a new pervaporation membrane Part 2. Performance test and analysis of the new membrane 90 (1994) 207

**Permasep B10**
An experimental and analytical study of Permasep B10 separation characteristics 87 (1994) 1

**Permeability**
Concurrent measurements of sorption and dilation isotherms and diffusivity for polysulfone membrane/carbon dioxide system 98 (1995) 69

**Permeability control**
pH-responsive permeability of poly(acrylic acid)–poly(ethylenimine) complex capsule membrane 76 (1993) 233

**Permeate flow**
Mathematical modelling of permeate flow in multichannel ceramic membrane 100 (1995) 111

**Permeate flux**
Steady-state permeate flux of cross-flow microfiltration 98 (1995) 97

**Permeate flux enhancement**
Scaling up pulsatile filtration flow methods to a pilot apparatus equipped with mineral membranes 80 (1993) 13

**Permeate-membrane interaction**
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209

**Permeate pressure**
Modeling spiral wound membrane modules for the pervaporative removal of volatile organic compounds from water 88 (1994) 47

**Permeate side**
Diffusion through polyethersulfone tubular UF membranes: an experimental approach 92 (1994) 141

**Permeation**
Analysis of permeation rate of cobalt ions across a supported liquid membrane containing HEH(EHP) 100 (1995) 69

**Permeation method**
Evaluation of selected methods for the characterisation of ceramic membranes 89 (1994) 119

**Permeation modeling**
Comparison of the separation of lactic acid and L-leucine by liquid emulsion membranes 80 (1993) 85

**Permeator**
Gas separation in an internally staged permeator: experimental results and theoretical predictions 80 (1993) 147

**Permeators performance**
An experimental and analytical study of Permasep B10 separation characteristics 87 (1994) 1

**Permporometry**

Liquid expulsion permporometry for characterization of porous membranes 95 (1994) 29

**Permselective membranes**
Heterogeneous modelling of packed bed fermentor with permselective membranes 76 (1993) 165

**Permselectivity**
Gas permeabilities and permselectivities of amorphous segmented 6F poly(arylene thioether imide)s and the corresponding poly(arylene sulfone imide)s 90 (1994) 151

Electrochemical properties of cellulosic ion-exchange membranes I. Equilibrium and permselectivity 92 (1994) 75

**Perovskite**
Preparation of pore-free disk of $La_{1-x}Sr_xCoO_3$ mixed conductor and its oxygen permeability 92 (1994) 239

**Pertraction**
Recovery of silver from nitrate solution by means of rotating film pertraction 86 (1993) 137

**Pervaporation**
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273

Study of a new pervaporation membrane Part 2. Performance test and analysis of the new membrane 90 (1994) 207

**Pervaporation of ethanol–water**
Characteristics of plasma polymerized membrane from octamethyltrisiloxane and its application to the pervaporation of ethanol–water mixture 88 (1994) 85

**Pervaporation separation index**
The effect of molecular weight cut-off of PAN ultrafiltration support layer on separation of water–ethanol mixtures through pervaporation with PAA–PAN composite membrane 90 (1994) 91

**Permeation rate**
Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273

**Petroleum**
Separation of supercritical fluid mixtures of $CO_2$ and petroleum components with an asymmetric polyimide membrane 93 (1994) 165

**PFSI**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

**Phase inversion**
Mass transfer and thermodynamics during immersion precipitation for a two-polymer system Evaluation with the system PES–PVP–NMP–water 90 (1994) 231

**Phase inversion membrane**
Integral asymmetric poly(vinylidene fluoride) (PVDF) pervaporation membranes 85 (1993) 301

**Phase inversion process**
Selection criteria for solvent and gelation medium in the phase inversion process 89 (1994) 215

**Phase separation**
Application of batch ultrafiltration to the separation of W/O emulsions in liquid surfactant membrane processes 96 (1994) 193

**Phase transformation**
A comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes 91 (1994) 27

**pH effect**
The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285

**Phenol**
Hollow-fibre pertractor with bulk liquid membrane 80 (1993) 99

**Phenolphthalein-based polysulfone**
Sorption, transport, and history effects in phenolphthalein-based polysulfone 95 (1994) 147

**Phenylalanine**
Kinetics of the extraction of phenylalanine and glutamic acid by ion-exchange carriers 76 (1993) 219

**Phosphogypsum**
Concentration of the extraction fluid from sulfuric acid treatment of phosphogypsum by membrane distillation 78 (1993) 277

**Phosphonic acids**
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119

**Phosphoric acid**
Modification of ceramic membrane surfaces using phosphoric acid and alkyl phosphonic acids and its effects on ultrafiltration of BSA protein 98 (1995) 119

**Photochromic**
Transport characteristics of the photo-driven active transport by triaryl cations across a liquid membrane 89 (1994) 101

**Photochromism**
Photoinduced membrane potential change of methacrylate polymers containing various spiropyrans 93 (1994) 69

**Photoinduced membrane potential change**
Photoinduced membrane potential change of methacrylate polymers containing various spiropyrans 93 (1994) 69

**Photopolymerization**
Photopolymerization and characterization of methacrylate-based reactive composite membranes 100 (1995) 171

**Photoresponse**
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171

**pH-response**

pH-responsive permeability of poly(acrylic acid)–poly(ethylenimine) complex capsule membrane 76 (1993) 233

**Physical adsorption**
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59

**Pilot scale studies**
Pilot scale brine concentration process using membrane pervaporation 87 (1994) 131

**Plant design**
Membrane plants of modular design for diffusion controlled gas separations 87 (1994) 297

**Plant effluent**
Influence of shear rate on the flux during ultrafiltration of colloidal substances 79 (1993) 93

**Plasma cross-flow filtration**
Protein adsorption and trapping during steady and pulsed flow plasma cross-flow filtration 88 (1994) 197

**Plasma-graft polymerization**
Separation of rare earth metals in a hollow-fiber membrane extractor modified by plasma-graft polymerization 96 (1994) 299

Pervaporation of water–ethanol mixtures through sulfonated polystyrene membranes prepared by plasma graft-polymerization 98 (1995) 89

Preparation of pervaporation membranes for removal of dissolved organics from water by plasma-graft filling polymerization 95 (1994) 39

Selective permeation of carbon dioxide through plasma polymerized membrane from diisopropylamine 92 (1994) 257

**Plasma treatment**
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139

**Plasticization**
Comparison of mixed and pure gas permeation characteristics for $CO_2$ and $CH_4$ in copolymers and blends containing methyl methacrylate units 77 (1993) 49

**Plate module**
A new concept of mass transfer coefficient in reverse osmosis — practical applications 86 (1993) 145

**Poisoning**
Transport properties of electrodialysis membranes in the presence of arginine. II. Competition between the electrotransport of organic and inorganic ions through a cation exchange membrane in an aqueous solution of arginine chlorhydrate and sodium chloride 89 (1994) 83

**Polarised layer**
Calculation of limiting fluxes in the ultrafiltration of colloids and fine particulates 99 (1995) 229

**Polarization**
Intensification of electrodialysis based on electroosmosis of the second kind 79 (1993) 199

Ultrafiltration of a large polyelectrolyte 99 (1995) 21

**Polar solvents**
Continued studies of an electroconvective liquid membrane for gas separation 99 (1995) 249

**Pollution**
Ion-exchange membranes in extraction processes 78 (1993) 255

**Poly(2,6-dimethyl-1,4-phenylene oxide)**
Structure and gas permeability of alkynylated poly(phenylene oxide) 95 (1994) 135

**Poly-2-vinylimidazoline**
Chemical composition of thin-film composite reverse osmosis membranes made from poly-2-vinylimidazoline 78 (1993) 283

**Poly(4-vinylpyridine-co-acrylonitrile)**
Pervaporation of water–acetic acid mixture through poly(4-vinylpyridine-co-acrylonitrile) membrane 85 (1993) 13

**Poly[1-(trimethylsilyl)-1-propyne**
Physical modification of poly[1-(trimethylsilyl)-1-propyne] membranes for gas separation 94 (1994) 183

**Poly[1-(trimethylsilyl)-1-propyne]**
Improvement of oxygen/nitrogen permselectivity of poly[1-(trimethylsilyl)-1-propyne) membrane by plasma polymerization 90 (1994) 81

**Poly{γ-[3-(pentamethyldisiloxanyl)propyl]-L-glutamate}**
Enantioselective permeation through poly{γ-[3-(pentamethyldisiloxanyl)propyl]-L-glutamate} membranes 99 (1995) 117

**Polyacrylamide gel**
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171

**Polyacrylic acid**
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273

**Polyacrylonitrile**
Numerical simulation of solvent diffusion for binary alcohol mixtures in polyacrylonitrile membrane 99 (1995) 107

**Poly(acrylonitrile-*co*-acrylic acid)**
Association behavior in copolymer blend membranes and the pervaporation of water/ethanol mixtures 85 (1993) 81

**Poly(acrylonitrile-*co*-vinyl pyridine)**
Association behavior in copolymer blend membranes and the pervaporation of water/ethanol mixtures 85 (1993) 81

**Polyacrylonitrile membranes**
The surface structure and morphology of polyacrylonitrile membranes by atomic force microscopy 81 (1993) 109

**Polyamide**
Polyamide polymer solution behaviour under chlorination conditions 88 (1994) 285

**Poly(amide imide)**

Novel highly permselective 6F-poly(amide-imide)s as membrane host for nano-sized catalysts 99 (1995) 29

**Polyamide membranes**
Design and construction of gas permeation system for the measurement of low permeation rates and permeate compositions 98 (1995) 281

**Polyaniline**
Investigation of the gas-transport properties of polyaniline 91 (1994) 1

**Poly(arylene ether sulfone)**
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211

**Polyaza carriers**
Urea transport through supported liquid membranes using synthetic carriers 82 (1993) 277

**Polybutadiene**
Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23

**Polycarbonate**
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21

**Polycondensation**
Permselectivities of polysiloxaneimide membrane for aqueous ethanol mixture in pervaporation 93 (1994) 273

**Poly(dimethylsiloxane)**
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139

**Polydispersity**
Modelling the effects of particle polydispersity in crossflow filtration 99 (1995) 77

**Polyelectrolyte**
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193

**Polyelectrolyte complex**
pH-responsive permeability of poly(acrylic acid)–poly(ethylenimine) complex capsule membrane 76 (1993) 233

**Polyelectrolyte gels**
Facilitated transport of ethene across polyelectrolyte gels with silver ions as a carrier 91 (1994) 217

**Polyelectrolytes**
Ultrafiltration of a large polyelectrolyte 99 (1995) 21

**Poly(ether ether ketone)**
Permeation of carbon dioxide in glassy poly(ether imide) and poly(ether ether ketone) membranes 93 (1994) 53

**Poly(ether imide)**
Permeation of carbon dioxide in glassy poly(ether imide) and poly(ether ether ketone) membranes 93 (1994) 53

**Polyethersulfone membrane**
Gas permeation characteristics of polymer–zeolite mixed matrix membranes 91 (1994) 77

Polysulfone membranes. IV. Performance evaluation of Radel A/PVP membranes 78 (1993) 123

**Poly(ethylene glycol)**
Dynamic characterization and transport mechanisms of two inorganic membranes for nanofiltration 97 (1994) 155

**Polyethylene glycols**
Mass transfer coefficient and retention of PEGs in low pressure crossflow ultrafiltration through asymmetric membranes 99 (1995) 1

**Polyimide**
Pervaporation of organic liquid mixtures through membranes of polyimides containing methyl-substituted phenylenediamine moieties 95 (1994) 161

**Polyimide isomers**
Dependence of the gas permeability of some polyimide isomers on their intrasegmental mobility 77 (1993) 41

**Polyimide membrane**
Gas permeation of aromatic polyimides. I. Relationship between gas permeabilities and dielectric constants 81 (1993) 15

Gas permeation of aromatic polyimides. II. Influence of chemical structure 81 (1993) 23

**Polyimides**
Selectivity enhancement via photooxidative surface modification of polyimide air separation membranes 94 (1994) 195

**Poly(L-glutamic acid)**
Counterion-specific swelling behaviour of crosslinked poly(L-glutamic acid) membranes in aqueous alcohols 81 (1993) 253

**Polymer**
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259

**Polymer blend**
Pervaporation of alcohol–toluene mixtures through polymer blend membranes of poly(acrylic acid) and poly(vinyl alcohol) 90 (1994) 265

Composite cellulose acetate/poly(methyl methacrylate) blend gas separation membranes 94 (1994) 313

**Polymeric complexed membrane**
Modified styrene–butadiene–styrene block copolymer membranes complexed with (*N,N'*-disalicylideneethylenediamine)cobalt(II) for oxygen permeation: polymeric axial ligand effect 87 (1994) 233

**Polymeric membrane**
Specialty polymeric membranes 2. Pervaporation separation of aqueous lower alcohol solutions through modified polybutadiene membranes 89 (1994) 23

The activity of lipase from *Rhizopus* sp. in native form and after immobilization on hollow-fiber membranes 97 (1994) 209

Low voltage scanning electron microscopy in membrane research 88 (1994) 103

Polymers for gas separations: the next decade 94 (1994) 1

**Polymer particles**
Studies on distribution and reverse osmosis properties of cellulose acetate derivatives for organic compounds 85 (1993) 1

**Poly(*N*-isopropylacrylamide-co-butylmethacrylate) gel**
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267

**Polyperfluorosulfonate ionomer**
$CO_2/CH_4$ transport in polyperfluorosulfonate ionomers: Effects of polar solvents on permeation and solubility 99 (1995) 163

**Polyperfluorosulfonic acid**
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161

**Poly(phenylene oxide)**
Pervaporation of methanol–MTBE mixtures through modified poly(phenylene oxide) membranes 91 (1994) 283

Separation of ethylene and ethane over polyphenyleneoxides membranes: transient increase of selectivity 82 (1993) 149

Propylene in polyphenylene oxides membranes: unusual permeability vs. pressure behaviour 98 (1995) 287

**Polyphosphazene membranes**
Helium separation properties of phosphazene polymer membranes 86 (1993) 57

**Polypyrrole**
Properties of composite membranes prepared from ion exchange membranes and conducting polymers V. Dependence of EMF of composite membranes prepared from anion exchange membranes and polypyrrole on relative humidity 91 (1994) 199

**Polypyrrole membranes**
Effect of the counterion employed during synthesis on the properties of polypyrrole membranes 87 (1994) 47

**Polypyrrolone**
Analysis of a thermally stable polypyrrolone for high temperature membrane-based gas separations 90 (1994) 117

**Polysiloxaneimide membrane**
Permselectivities of polysiloxaneimide membrane for aqueous ethanol mixture in pervaporation 93 (1994) 273

**Polysulfone**
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273

Concurrent measurements of sorption and dilation isotherms and diffusivity for polysulfone membrane/carbon dioxide system 98 (1995) 69

Fractionation of casein hydrolysates using polysulfone ultrafiltration hollow fiber membranes 80 (1993) 257

**Polysulfone–polyvinylpyrrolidone blend**
Use of an electric field to alter membrane morphology in a polysulfone–polyvinylpyrrolidone blend 79 (1993) 115

**Polyurea**
Extraction of hexavalent chromium ions with polyurea microcapsules 89 (1994) 1

**Poly(vinyl acetal) membranes**
Anomalous sorption and pervaporation of aqueous organic mixtures by poly(vinyl acetal) membranes 95 (1994) 207

**Poly(vinyl alcohol)**
Pervaporation of alcohol–toluene mixtures through polymer blend membranes of poly(acrylic acid) and poly(vinyl alcohol) 90 (1994) 265

**Poly(vinyl alcohol) membrane**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part II. Concentration polarization, coupled diffusion and the influence of the porous support layer 89 (1994) 153

Preferential sorption of modified PVA membrane in pervaporation 80 (1993) 297

**Poly(vinyl chloride)**
Poly(vinyl chloride)polyacrylonitrile composite membranes for the dehydration of acetic acid 81 (1993) 57

**Poly (vinyl chloride) membrane**
An investigation on the capillary viscosities of some hydrophilic fluids permeating through a poly(vinyl chloride) membrane 92 (1994) 209

Influence of casting solution additive, degree of polymerization, and polymer concentration on poly(vinyl chloride) membrane properties and performance 83 (1993) 199

**Poly(vinylidene fluoride)**
Pervaporation of water–ethanol mixtures through sulfonated polystyrene membranes prepared by plasma graft-polymerization 98 (1995) 89

**Polyvinylimidazole**
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223

**Polyvinylpyrrolidone**
The permeability behavior of polyvinylpyrrolidone-modified porous silica membranes 84 (1993) 151

**Poly(vinyltrimethylsilane)**
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65

**Pore characterization**

A comparative study of techniques used for porous membrane characterization: pore characterization 87 (1994) 35

**Pore flow model**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part II. Concentration polarization, coupled diffusion and the influence of the porous support layer 89 (1994) 153

**Pore plugging**
Analysis of steric hindrance reduction in pulsed protein ultrafiltration 85 (1993) 39

**Pore radius**
Gas permeation in ceramic membranes Part II. Modeling of gas permeation through ceramic membrane with one supported layer 97 (1994) 145

**Pores**
The surface structure and morphology of polyacrylonitrile membranes by atomic force microscopy 81 (1993) 109

**Pore shape**
Porosity dependence of pore entry shape in track-etched membranes by image analysis 93 (1994) 79

**Pore size**
Pore size distribution determination from liquid permeation through microporous membranes 99 (1995) 127

**Pore size change**
Experimental studies on pore size change of porous ceramic membranes after modification 79 (1993) 65

**Pore size distribution**
Determination of pore size and pore size distribution 3. Filtration membranes 96 (1994) 131

Diagnosis of membrane fouling using a rotating annular filter. 2. Dilute particle suspensions of known particle size 77 (1993) 23

**Pore structure evolution**
A comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes 91 (1994) 27

**Porogen**
Separation of water–ethanol mixtures by pervaporation through composite membranes prepared by concentrated emulsion polymerization: Improvement of the permeation rate with a porogen 85 (1993) 59

**Porometry**
Structural characteristics of a macroporous membrane used for HBs antigen removal 81 (1993) 263

**Porosimetry**
Porosity and protein adsorption of four polymeric microfiltration membranes 76 (1993) 61

**Porosity**
Cake growth mechanism in cross-flow microfiltration of mineral suspensions 98 (1995) 107

**Porous and microporous membranes**
Porosity and protein adsorption of four polymeric microfiltration membranes 76 (1993) 61

**Porous ceramic membrane**
Permporometry study on the size distribution of active pores in porous ceramic membranes 83 (1993) 221

**Porous hydrophobic membranes**
Osmotic distillation through porous hydrophobic membranes 82 (1993) 129

**Porous membrane**
Photoinduced electron transfer properties of porous polymer membranes doped with the fullerene $C_{60}$ associated with phospholipids 91 (1994) 259

Liquid expulsion permporometry for characterization of porous membranes 95 (1994) 29

**Porous support**
Two- and three-dimensional analysis of diffusion through a dense membrane supported on a porous material 99 (1995) 175

**Post-treatment**
Effect of mild solvent post-treatments on the gas transport properties of glassy polymer membranes 90 (1994) 213

**Praseodymium**
Permeation of neodymium and praseodymium through supported liquid membranes containing di-(2-ethylhexyl)phosphoric acid as a carrier 81 (1993) 121

**Precipitation value**
Relationship between mass ratio of nonsolvent-additive to solvent in membrane casting solution and its coagulation value 98 (1995) 233

**Precoating**
Criteria for selecting the operating regime of the crossflow microfilter or the tubular filter press for clarification of turbid waters 87 (1994) 57

**Prediction**
Development of concentration profile and prediction of flux for ultrafiltration in a radial cross-flow cell 97 (1994) 185

**Preferential sorption**
Preferential sorption of modified PVA membrane in pervaporation 80 (1993) 297

**Preparation**
Study of a new pervaporation membrane Part 1. Preparation and characteristics of the new membrane 90 (1994) 199

**Pressure dependence**
Solvent fluxes measured on a membrane module 84 (1993) 139

**Pressure-driven transport**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Pressure drop**

Pressure drops in radial flow membrane modules for ultrafiltration hollow fibers 92 (1994) 131

**Pressure effects**
Study of membrane compaction and its influence on ultrafiltration water permeability 100 (1995) 155

**Pressure–permeability dependence**
Propylene in polyphenylene oxides membranes: unusual permeability vs. pressure behaviour 98 (1995) 287

**Pressure profile**
Gas permeation in ceramic membranes Part II. Modeling of gas permeation through ceramic membrane with one supported layer 97 (1994) 145

**Pressure swing adsorption**
Oxygen separation from air by a combined pressure swing adsorption and continuous membrane column process 88 (1994) 131

**Pretreatment**
Application of ceramic membrane as a pretreatment in anaerobic digestion of alcohol-distillery wastes 90 (1994) 131

**Process configurations**
Membrane processes for the removal of acid gases from natural gas. I. Process configurations and optimization of operating conditions 81 (1993) 209

**Process design**
Flowsheet simulation of ultrafiltration and reverse osmosis processes 91 (1994) 111

**Process optimization**
Optimization of ultrafiltration and diafiltration processes for albumin production 97 (1994) 71

Evolution of membranes in commercial air separation 94 (1994) 225

**Propane dehydrogenation**
A high temperature catalytic membrane reactor for propane dehydrogenation 77 (1993) 221

**Propylene**
Propylene in polyphenylene oxides membranes: unusual permeability vs. pressure behaviour 98 (1995) 287

**Protein**
Ultrafiltration of lysozyme and bovine serum albumin with polysulfone membranes modified with quaternized polyvinylimidazole 89 (1994) 223

**Protein adsorption**
Protein adsorption and trapping during steady and pulsed flow plasma cross-flow filtration 88 (1994) 197

**Protein conformation**
Effect of temperature on protein conformation and activity during ultrafiltration 78 (1993) 35

**Protein denaturation**
Effect of temperature on protein conformation and activity during ultrafiltration 78 (1993) 35

**Protein deposition**
Performance evaluation of surface hydrophilized novel ultrafiltration membranes using aqueous proteins 99 (1995) 149

**Protein filtration**
The influence of protein aggregates on the fouling of microfiltration membranes during stirred cell filtration 80 (1993) 175

**Protein–membrane interaction**
Mechanisms governing permeate flux and protein rejection in the microfiltration of beer with a Cyclopore membrane 84 (1993) 37

**Protein rejection**
Mechanisms governing permeate flux and protein rejection in the microfiltration of beer with a Cyclopore membrane 84 (1993) 37

**Proteins**
Determination of total protein adsorbed on solid (membrane) surface by a hydrolysis technique: single protein adsorption 93 (1994) 21

**Protein separation**
Applying electron paramagnetic resonance spectroscopy to the study of fouling in protein ultrafiltration 96 (1994) 289

**Protein sorption**
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45

**Protein transmission**
Modelling of protein transmission through ultrafiltration membranes 97 (1994) 83

**Proton exchange membranes**
Proton exchange membranes prepared by simultaneous radiation grafting of styrene onto Teflon–FEP films. Synthesis and characterization 81 (1993) 89

**Proton pump**
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171

**PSPICE modeling**
Application of network thermodynamics to the computer simulation of non-stationary ionic transport in membranes 90 (1994) 173

**Pulp and paper effluent**
Fouling and retention of nanofiltration membranes 98 (1995) 249

**Pulsatile flow**
Simulation of cross-flow filtration for baffled tubular channels and pulsatile flow 95 (1994) 243

**Pulsating flow**
Energy saving pulsatile mode cross flow filtration 86 (1993) 281

**Pulsed-field gradient nuclear magnetic resonance**
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273

**Pure fluid flow**
The performance of a rotating filter 1. Theoretical analysis of the flow in an annulus with a rotating inner porous wall 99 (1995) 241

**Purification**
A model and mathematical representation for membrane concentration and purification of macromolecular solutions containing low molecular weight contaminants 79 (1993) 241

**Purple membrane**
Photoresponse of bacteriorhodopsin immobilized in polyacrylamide gel membranes 86 (1993) 171

**PVA-based membranes**
Dehydration of amines and diamines by pervaporation with ionomer and PVA-based membranes 81 (1993) 97

**PVDF membranes**
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45

**PVDF sulfamide membranes**
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45

**Pyridine recovery**
Recovery of pyridine from aqueous solution by membrane pervaporation 80 (1993) 309

**Pyridyl group**
Preparation of microfiltration membranes containing anion-exchange groups 76 (1993) 209

**Pyrophosphate**
Selective membrane transport of $Pb^{2+}$ ion by a cooperative carrier composed of 18-crown-6, tetrabutylammonium iodide and palmitic acid 95 (1994) 21

# Q

**Quasi-steady state**
Steady-state permeate flux of cross-flow microfiltration 98 (1995) 97

**Quaternary ammonium salt**
Design of urea-permeable anion-exchange membrane by radiation-induced graft polymerization 81 (1993) 295

# R

**Radel A100**
Polysulfone membranes. IV. Performance evaluation of Radel A/PVP membranes 78 (1993) 123

**Radial flow**
Pressure drops in radial flow membrane modules for ultrafiltration hollow fibers 92 (1994) 131

**γ-Radiation grafting**
Proton exchange membranes prepared by simultaneous radiation grafting of styrene onto Teflon–FEP films. Synthesis and characterization 81 (1993) 89

**Radiation-induced grafting**
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21

**Radiation-induced graft polymerization**
High collection rate of Pd in hydrochloric acid medium using chelating microporous membrane 95 (1994) 63

**Radioactive wastes**
A preliminary evaluation of microporous hollow fiber membrane modules for the liquid–liquid extraction of actinides 97 (1994) 251

**Radiotracers**
Electrotransport of HCl in anion exchange membranes for the recovery of acids. Part II. Kinetics of ion transfer at the membrane–solution interface 85 (1993) 195

**Raman spectroscopy**
Identification of the ionic species in anion exchange membranes equilibrated with sulphuric acid solutions by means of Raman spectroscopy and radiotracers 78 (1993) 25

Investigation of polymer morphology of integral-asymmetric membranes by ESR and Raman spectroscopy and its comparison with homogeneous films 98 (1995) 201

**Rare earth metals**
Separation of rare earth metals in a hollow-fiber membrane extractor modified by plasma-graft polymerization 96 (1994) 299

**Raw cane sugar**
Dynamic modeling of crossflow microfiltration using neural networks 98 (1995) 263

**Recombinant protein A**
Affinity membranes prepared from hydrophilic coatings on microporous polysulfone hollow fibers 90 (1994) 69

**Recovery**
Pervaporation of dilute organic–waters mixtures. A literature review on modelling studies and applications to aroma compound recovery 76 (1993) 121

**Recycle permeator**
Evaluation of retentate recycle effect on enrichment of less permeable gas component in a membrane permeator 94 (1994) 213

**Redox cells**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

**Redox reactions**
Properties of composite membranes prepared from ion exchange membranes and conducting polymers. II. Electrical potential gener-

ation from cell composed of a cation exchange membrane–polypyrrole composite membrane and a ferric ion form cation exchange membrane 82 (1993) 247

**Regenerated cellulose**
Application of the cuprammonium process (process for the production of regenerated cellulose membranes for hemodialysis) to sugarcane bagasse 82 (1993) 43

**Regeneration**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Rejection**
Transport of lactic acid through reverse osmosis and nanofiltration membranes 85 (1993) 205

**Rejection model**
Lactic acid separation from fermentation broths by reverse osmosis and nanofiltration 92 (1994) 185

**Rejection properties**
Parameters influencing the rejection properties of FT30 membranes 95 (1994) 185

**Relative transport of two ions**
Studies on ion exchange membranes with permselectivity for specific ions in electrodialysis 93 (1994) 117

**Resistance-in-series model**
Influence of sorption and diffusion of aroma compounds in silicone rubber on their extraction by pervaporation 90 (1994) 251

**Resistance model**
Resistance model approach to asymmetric polyetherimide membranes for pervaporation of isopropanol/water mixtures 84 (1993) 15

**Resistance to mass transfer**
Diffusion through polyethersulfone tubular UF membranes: an experimental approach 92 (1994) 141

**Respiratory quinone**
Performance of membrane separation bioreactor at various temperatures for domestic wastewater treatment 87 (1994) 119

**Retentate recycle**
Permeators and continuous membrane columns with retentate recycle 98 (1995) 57

**Retention**
Fouling and retention of nanofiltration membranes 98 (1995) 249

**Retention coefficient**
Diffusive flows in ultrafiltration and their effect on membrane retention properties 80 (1993) 73

**Retention mechanism**
An interpretation of the separation of low and high molecular weight solutes by ultrafiltration 79 (1993) 227

**Retentivity**
Effect of temperature on protein conformation and activity during ultrafiltration 78 (1993) 35

**Reversed micelle**
Protein extractions by supported liquid membrane with reversed micelles as carriers 100 (1995) 87

Carrier-mediated transport through liquid membranes Studies on transport of cadmium ions using sodium lauryl sulphate reversed micelles as carriers 93 (1994) 229

**Reverse osmosis**
Flux enhancement of reverse osmosis membranes by chemical surface modification 97 (1994) 231

Chemical composition of thin-film composite reverse osmosis membranes made from poly-2-vinylimidazoline 78 (1993) 283

**Rotary filtration module**
The performance of a rotating filter 1. Theoretical analysis of the flow in an annulus with a rotating inner porous wall 99 (1995) 241

**Rotary vortex filter**
Diagnosis of membrane fouling using a rotating annular filter. 1. Cell culture media 77 (1993) 1

Diagnosis of membrane fouling using a rotating annular filter. 2. Dilute particle suspensions of known particle size 77 (1993) 23

**Rotating annular filter**
Diagnosis of membrane fouling using a rotating annular filter. 1. Cell culture media 77 (1993) 1

**Rotating disk**
Shear stress induced erosion of filtration cake studied by a flat rotating disk method. Determination of the critical shear stress of erosion 84 (1993) 229

**Rotating membrane filter**
A study on dynamic separation of silica slurry using a rotating membrane filter 1. Experiments and filtrate fluxes 97 (1994) 263

**Rubbery polymers**
Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45

# S

**Salt effects**
Restricted permeation of dextransulfates by electrostatic barrier of negatively charged ultrafiltration membranes: salt effect on the permeation 86 (1993) 47

**Scanning electron microscopy**
Photopolymerization and characterization of methacrylate-based reactive composite membranes 100 (1995) 171

**Secondary flows**
Enhanced performance for pressure-driven membrane processes: the argument for fluid instabilities 80 (1993) 35

**Segmented 6F polyimides**
Gas permeabilities and permselectivities of amorphous segmented 6F poly(arylene thioether imide)s and the corresponding poly(arylene sulfone imide)s 90 (1994) 151

**Selective adsorption**
Ceramic-zeolite composite membranes and their application for separation of vapor/gas mixtures 90 (1994) 1

**Selective binding**
Polymer binding/ultrafiltration as a method for concentration and separation of metals 79 (1993) 253

**Selective permeation**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Selective permeation of $CO_2$**
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139

**Selective separation of $CO_2$**
Selective permeation of carbon dioxide through plasma polymerized membrane from diisopropylamine 92 (1994) 257

**Selective transport**
Facilitated transport of ions through fixed-site carrier membranes derived from hybrid organic-inorganic materials 100 (1995) 99

**Selectivity**
Study of streaming potentials of clean and fouled ultrafiltration membranes 88 (1994) 211

**Selectivity enhancement**
Effect of mild solvent post-treatments on the gas transport properties of glassy polymer membranes 90 (1994) 213

**Selectivity enhancement of gas sensors**
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87

**Self-diffusion**
Self-diffusion of water–ethanol mixtures in polyacrylic acid–polysulfone composite membranes obtained by pulsed-field gradient nuclear magnetic resonance spectroscopy 100 (1995) 273

**Self-diffusion flux**
Electrotransport of protons and chloride ions in anion exchange membranes for the recovery of acids. Part I. Equilibrium properties 85 (1993) 183

**Semipermeable membrane**
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229

**Separation**
Separation of ethanol/water mixture by silicalite membrane on pervaporation 95 (1994) 221

**Separation factor**
Separation of ethylene and ethane over polyphenyleneoxides membranes: transient increase of selectivity 82 (1993) 149

**Separation of acetic acid/water**
Pervaporation of aqueous acetic acid mixture through poly(acrylic acid-co-acrylonitrile) membranes 82 (1993) 157

**Separation of $CO_2/CH_4$**
Treatment of landfill gas by gas permeation – pilot plant results and comparison to alternatives* 87 (1994) 107

**Separation of $CO_2$/iso-octane**
Separation of supercritical $CO_2$ and iso-octane mixtures with an asymmetric polyimide membrane 84 (1993) 185

**Separation of $CO_2$ and $CH_4$**
Gas transport properties of solution-cast perfluorosulfonic acid ionomer films containing ionic surfactants 84 (1993) 161

**Separation of $CO_2$ over $CH_4$**
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139

**Separation of ethene/ethane**
Facilitated transport of ethene through Nafion membranes. Part II. Glycerine treated, water swollen membranes 85 (1993) 99

**Separation of hydrogen/nitrogen**
Preparation of palladium–silver alloy membranes for hydrogen separation by the spray pyrolysis method 78 (1993) 247

**Separation of olefin/paraffin**
Novel methods in separation of olefin/paraffin mixtures by functional polymeric membranes 82 (1993) 117

**Separation of oxygen and nitrogen**
Gas permeability of poly[1-(trimethylsilyl)-1-propyne] membranes modified by hexafluorobutyl methacrylate 82 (1993) 99

**Separation of phenol/water**
Concentration polarization in pervaporation separation processes 92 (1994) 201

**Separation of water–acetic acid mixtures**
Pervaporation of water–acetic acid mixture through poly(4-vinylpyridine-co-acrylonitrile) membrane 85 (1993) 13

**Separation of water/alcohol**
Optimization of the mechanical properties of polymeric composite membranes prepared via emulsion pathways 81 (1993) 191

Separation of water–ethanol mixtures by pervaporation through composite membranes prepared by concentrated emulsion polymerization: Improvement of the permeation rate with a porogen 85 (1993) 59

Membranes of block copolymer–poly(divinylbenzene) blends for the pervaporation of alcohol/water mixtures 90 (1994) 275

**Separation stages**

A comparison of membrane cascades, some one-compressor recycle permeators, and distillation 89 (1994) 51

**Series layer model**
Transport of electrolytes across cation-exchange membranes. Test of Onsager reciprocity in zero-current processes 78 (1993) 155

**Serum albumin**
Optical resolution of amino acids by ultrafiltration membranes containing serum albumin 93 (1994) 157

**Shape-selective**
Ceramic zeolite composite membranes. Preparation, characterization and gas permeation 82 (1993) 15

**Shear-induced particle diffusion**
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229

**Shear stress**
Shear stress induced erosion of filtration cake studied by a flat rotating disk method. Determination of the critical shear stress of erosion 84 (1993) 229

**Shell side**
The effect of shell side hydrodynamics on the performance of axial flow hollow fibre modules 80 (1993) 1

**Sigmoidal swelling**
Sigmoidal swelling profiles for temperature-responsive poly(*N*-isopropylacrylamide-*co*-butyl methacrylate) hydrogels 89 (1994) 267

**Silica–alumina membrane**
Characterization of hydrogen-permselective microporous ceramic membranes 96 (1994) 275

**Silica-based membranes**
"Ultramicroporous" silica-based supported inorganic membranes 77 (1993) 165

**Silica deposition**
A diffusion-controlled procedure to close pores in ceramic membranes 95 (1994) 259

**Silicalite**
Zeolite-filled silicone rubber membranes Experimental determination of concentration profiles 89 (1994) 185

**Silicalite-1**
Ceramic-zeolite composite membranes and their application for separation of vapor/gas mixtures 90 (1994) 1

**Silicalite membrane**
Separation of ethanol/water mixture by silicalite membrane on pervaporation 95 (1994) 221

**Silica membranes**
Chemical vapor deposition of hydrogen-permselective silica films on porous glass supports from tetraethylorthosilicate 85 (1993) 279

**Silicone**
Influence of sorption and diffusion of aroma compounds in silicone rubber on their extraction by pervaporation 90 (1994) 251

**Silicone membranes**
Preparation and characterization of silicone membranes for supported liquid membrane applications 76 (1993) 157

**Silicone rubber**
Zeolite-filled silicone rubber membranes Experimental determination of concentration profiles 89 (1994) 185

**Silicon organic membranes**
Investigation of the concentration driven permeation of diluted $SO_2$, $NO_2$ and CO in silicon organic membranes prepared by plasma polymerization 86 (1993) 87

**Silver extraction**
Recovery of silver from nitrate solution by means of rotating film pertraction 86 (1993) 137

**Silver nitrate**
Facilitated uphill transport of eicosapentaenoic acid ethyl ester through bulk and supported liquid membranes containing silver nitrate as carrier: a new type of uphill transport 91 (1994) 209

**Silyl-substituted PPO**
The gas permeation property in trimethylsilyl-substituted PPO and triphenylsilyl-substituted PPO 97 (1994) 275

**Simulated electroplating rinse solution**
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163

**Simulation**
On the presence of double log-normal permeability distributions in ultrafiltration membranes 93 (1994) 165

**Simultaneous conversion and product separation**
Applicability of two membranes for improving performance of a membrane reactor 96 (1994) 213

**Sintering**
A comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes 91 (1994) 27

**Size exclusion**
Fouling and selectivity of membranes during separation of $\beta$-casein 88 (1994) 263

**Skin**
Two- and three-dimensional analysis of diffusion through a dense membrane supported on a porous material 99 (1995) 175

**Skin layer**
Hollow fiber membrane based on polyacrylonitrile with a high degree of polymerization and its properties 85 (1993) 129

**Small angle X-ray scattering**
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59

**Small charged organic molecules**
Electrochemically controlled transport of small charged organic molecules across conducting polymer membranes 100 (1995) 239

**Sodium lauryl sulphate**

Carrier-mediated transport through liquid membranes Studies on transport of cadmium ions using sodium lauryl sulphate reversed micelles as carriers 93 (1994) 229

**Sodium salt form of sulfonated membrane**
Pervaporation of water–ethanol mixtures through sulfonated polystyrene membranes prepared by plasma graft-polymerization 98 (1995) 89

**Softening**
Economic feasibility study of polyelectrolyte-enhanced ultrafiltration (PEUF) for water softening 100 (1995) 193

**Sol–gel method**
A microporous zirconia membrane prepared by the sol–gel process from zirconyl oxalate 86 (1993) 95

Formation and characterization of supported microporous ceramic membranes prepared by sol-gel modification techniques 99 (1995) 57

Preparation and characterization of sol–gel derived microporous membranes with high thermal stability 96 (1994) 205

**Sol–gel technique**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Solid polymer electrolyte**
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211

**Solubility**
New and modified anodic alumina membranes Part II. Comparison of solubility of amorphous (normal) and polycrystalline anodic alumina membranes 98 (1995) 143

**Solubility and partitioning**
Solubility of gases and vapors in biological media: a simple correlation 76 (1993) 89

Organic vapor sorption and transport in a thermotropic liquid crystalline polyester 94 (1994) 67

**Solubility correlation**
Solubility of gases and vapors in biological media: a simple correlation 76 (1993) 89

**Solute permeability**
An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159

**Solute rejection**
Mechanisms of permeate flux decay, solute rejection and concentration polarisation in crossflow filtration of a double chain ionic surfactant dispersion 88 (1994) 177

**Solute-related**
Pulsed-electric-field crossflow ultrafiltration of bovine serum albumin 80 (1993) 209

**Solution–diffusion model**
Precise analytical model of hollow fiber reverse osmosis modules 85 (1993) 241

**Solvent extraction**
Recovery of nickel from a simulated electroplating rinse solution by solvent extraction and liquid surfactant membrane 100 (1995) 163

**Solvents**
Solvent fluxes measured on a membrane module 84 (1993) 139

**Solvent transport**
Solvent transport across anion-exchange membranes under a temperature difference and transported entropy of water 92 (1994) 85

**Solvent treatment**
Effect of mild solvent post-treatments on the gas transport properties of glassy polymer membranes 90 (1994) 213

**Sonication**
Synthesis of palladium impregnated alumina membrane for hydrogen separation 96 (1994) 223

**Sorption**
Sorption and partial molar volumes of inert gases in rubbery polymers 93 (1994) 45

**Sorption and dilation**
Concurrent measurements of sorption and dilation isotherms and diffusivity for polysulfone membrane/carbon dioxide system 98 (1995) 69

**Sorption capacity**
Separation of water–ethanol mixtures by pervaporation through composite membranes prepared by concentrated emulsion polymerization: Improvement of the permeation rate with a porogen 85 (1993) 59

**Sorption equilibrium**
Pervaporation of ethanol/water through a poly(vinyl alcohol)/cyclodextrin (PVA/CD) membrane 89 (1994) 111

**Sorption isotherm**
Water vapor permeability and diffusivity through methylcellulose edible films 91 (1994) 125

**Sorption measurement**
Influence of sorption and diffusion of aroma compounds in silicone rubber on their extraction by pervaporation 90 (1994) 251

**Space-charge model**
The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285

**Spacer design**
Improved spacer design and cost reduction in an electrodialysis system 80 (1993) 251

**Spacers**
Spacer characterization and pressure drop modelling in spacer-filled channels for ultrafiltration 87 (1994) 79

**Span 80**
Extraction of strontium ions with emulsion liquid membrane technique 80 (1993) 319

**Specific resistance**
Modelling the effects of particle polydispersity in crossflow filtration 99 (1995) 77

**Spillover**
Preparation and characterization of metal-dispersed alumina membranes for selective separation of hydrogen 97 (1994) 199

**Spin-labeling**
Biofunctional membranes Part IV. Active-site structure and stability of an immobilized enzyme, papain, on modified polysulfone membranes studied by electron paramagnetic resonance and kinetics 91 (1994) 47

**Spinneret**
Wet spinning of integrally skinned hollow fiber membranes by a modified dual-bath coagulation method using a triple orifice spinneret 94 (1994) 329

**Spinning**
A new spinning technique for hollow fiber ultrafiltration membranes 78 (1993) 93

**Spinning conditions**
Study on the effect of spinning conditions and surface treatment on the geometry and performance of polymeric hollow-fibre membranes 100 (1995) 183

**Spiral-wound module**
Mass transfer in spiral wound pervaporation modules 92 (1994) 59

**Spiropyran**
Photoinduced membrane potential change of methacrylate polymers containing various spiropyrans 93 (1994) 69

**Spray pyrolysis**
Preparation of palladium–silver alloy membranes for hydrogen separation by the spray pyrolysis method 78 (1993) 247

**Sputter deposition**
Metal composite membranes for hydrogen separation 94 (1994) 299

**Stability**
A study of stability of supported liquid membranes by impedance spectroscopy 93 (1994) 255

**Stagnant cake layer**
Cake growth mechanism in cross-flow microfiltration of mineral suspensions 98 (1995) 107

**Statistical analysis**
Porosity dependence of pore entry shape in track-etched membranes by image analysis 93 (1994) 79

**Statistical model**
Particle aggregation at the membrane surface in crossflow microfiltration 84 (1993) 171

**Steady state approximation**
Non-steady state vs. steady state kinetic analysis of coupled ion transport through binary liquid membranes 76 (1993) 27

**Stefan–Maxwell**
Diffusive flows in ultrafiltration and their effect on membrane retention properties 80 (1993) 73

**Stereoselective transport**
Transport of dipeptides and phosphono dipeptides through an immobilized liquid membrane. Stereoselectivity of the process 78 (1993) 83

**Steric pore flow model**
Separation of organic solutes by membrane pressure-driven processes 89 (1994) 235

**Stirred cell filtration**
The influence of protein aggregates on the fouling of microfiltration membranes during stirred cell filtration 80 (1993) 175

**Stirring**
Macrokinetics of facilitated transport through liquid membranes. Part 2. Stirring 86 (1993) 127

**Stochastic model**
Stochastic approach to modeling surface fouling of ultrafiltration membranes 76 (1993) 85

**Streaming potential**
Adsorption of aquatic humic substances on hydrophobic ultrafiltration membranes 97 (1994) 37

**Streaming potential measurements**
Synthesis and characterization of affinity membranes made from polysulfone 88 (1994) 271

**Streaming potential**
Heterogeneous modification of ultrafiltration membranes made from poly(vinylidene fluoride) and their characterization 78 (1993) 45

**Strontium ion**
Extraction of strontium ions with emulsion liquid membrane technique 80 (1993) 319

**Structural image**
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207

**Structure/property relationship**
Gas permeabilities and permselectivities of amorphous segmented 6F poly(arylene thioether imide)s and the corresponding poly(arylene sulfone imide)s 90 (1994) 151

**Structure characterization of membranes**
Determination of pore size and pore size distribution 3. Filtration membranes 96 (1994) 131

**Structure–properties relationship**
Effect of structural membrane inhomogeneity on transport properties 79 (1993) 181

**Styrene**
A membrane reactor for the production of styrene from ethylbenzene 85 (1993) 229

**Styrene–butadiene–styrene triblock copolymer**
Modified styrene–butadiene–styrene block copolymer membranes complexed with (*N,N'*-disalicylideneethylenediamine)cobalt(II) for oxygen permeation: polymeric axial ligand effect 87 (1994) 233

**Subambient temperature operation; $O_2/N_2$ selectivity**
$O_2/N_2$ Selectivity improvement for polytrimethylsilylpropyne membranes by UV-irradiation and further enhancement by subambient temperature operation 79 (1993) 1

**Sublayer**
Roles of bimolecular interaction and relative diffusion rate in membrane structure control 83 (1993) 153

**Sugar**
Facilitated transport of carbohydrates via complexation with borate ion fixed on an anion-exchange membrane 98 (1995) 177

**Sugar-cane bagasse**
Application of the cuprammonium process (process for the production of regenerated cellulose membranes for hemodialysis) to sugar-cane bagasse 82 (1993) 43

**Sulfide detoxication**
Reverse osmosis for separation of reaction solutions in homogeneous catalysis 86 (1993) 37

**Sulfonated polystyrene**
Pervaporation of water–ethanol mixtures through sulfonated polystyrene membranes prepared by plasma graft-polymerization 98 (1995) 89

**Sulfonated polystyrenes**
Water transport across polystyrenesulfonate/alumina composite membranes 99 (1995) 185

**Sulfonation**
Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies 83 (1993) 211

**Sulfuric acid**
Electrodialysis in the separation of dilute aqueous solutions of sulfuric and nitric acids 76 (1993) 147

**Sulphur**
Deactivation and regeneration of Pd–Ag membranes for dehydrogenation reactions 89 (1994) 171

**Sulphuric acid**
Electrotransport of sulphuric acid in special anion exchange membranes for the recovery of acids 97 (1994) 99

**Supercritical fluid**
Separation of supercritical fluid mixtures of $CO_2$ and petroleum components with an asymmetric polyimide membrane 93 (1994) 165

**Supercritical fluid extraction**
Separation of ethanol from aqueous solution by a method incorporating supercritical $CO_2$ with reverse osmosis 81 (1993) 273

**Supported catalysts**
Nafion supported cationic palladium complexes as catalysts 87 (1994) 149

**Supported liquid membrane**
Enantioselective transport of amino acid through supported chiral liquid membranes 85 (1993) 221

Protein extractions by supported liquid membrane with reversed micelles as carriers 100 (1995) 87

**Surface characteristics**
Proper and adsorbed charges on the surfaces of the polysulfonic support of a composite membrane from electrokinetic phenomena 80 (1993) 285

**Surface characterization**
Determination of pore size and pore size distribution 1. Adsorbents and catalysts 96 (1994) 59

**Surface charge**
Prediction of the flux through an ultrafiltration membrane using fuzzy mathematics 83 (1993) 173

**Surface diffusion**
Synthesis of palladium impregnated alumina membrane for hydrogen separation 96 (1994) 223

**Surface features**
Surface characterization of ceramic membranes by atomic force microscopy 95 (1994) 289

**Surface fluorination**
Modification of asymmetric polysulfone membranes by mild surface fluorination Part I. Transport properties 94 (1994) 121

**Surface modification**
Effect of plasma treatment on $CO_2$ permeability and selectivity of poly(dimethylsiloxane) membrane 99 (1995) 139

**Surface modification of membrane**
Studies on ion exchange membranes with permselectivity for specific ions in electrodialysis 93 (1994) 117

**Surface pore defects**
Use of an electric field to alter membrane morphology in a polysulfone–polyvinylpyrrolidone blend 79 (1993) 115

**Surface treatment**
Study on the effect of spinning conditions and surface treatment on the geometry and performance of polymeric hollow-fibre membranes 100 (1995) 183

**Surfactant**
Control of the pore characteristics of thin alumina membranes with ultrafine zirconia particles prepared by the reversed micelle method 85 (1993) 167

Mechanisms of permeate flux decay, solute rejection and concentration polarisation in crossflow filtration of a double chain ionic surfactant dispersion 88 (1994) 177

**Surfactant dispersions**

Mechanisms of permeate flux decay, solute rejection and concentration polarisation in crossflow filtration of a double chain ionic surfactant dispersion 88 (1994) 177

**Surfactant-induced breakthrough**
Aqueous–organic membrane bioreactors Part II. Breakthrough pressure measurement 97 (1994) 13

**Suspended solids**
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191

**Suspensions**
The behavior of suspensions and macromolecular solutions in crossflow microfiltration 96 (1994) 1

**Swelling**
Propylene in polyphenylene oxides membranes: unusual permeability vs. pressure behaviour 98 (1995) 287

**Swelling characteristics**
Preparation and characterization of silicone membranes for supported liquid membrane applications 76 (1993) 157

**Symmetric and asymmetric membranes**
Investigation of polymer morphology of integral-asymmetric membranes by ESR and Raman spectroscopy and its comparison with homogeneous films 98 (1995) 201

**Synthesis**
Membrane reactors for electrochemical synthesis processes 90 (1994) 161

**Synthetic membranes**
Investigation of polymer morphology of integral-asymmetric membranes by ESR and Raman spectroscopy and its comparison with homogeneous films 98 (1995) 201

# T

**Tannin**
Comparison of BSA adsorption and Fe sorption to the diol group and tannin immobilized onto a microfiltration membrane 85 (1993) 21

**Taylor vortex**
A study on dynamic separation of silica slurry using a rotating membrane filter 1. Experiments and filtrate fluxes 97 (1994) 263

**Technical developments**
Evolution of membranes in commercial air separation 94 (1994) 225

**Technical solvents**
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

**Tellurium**
Transport of $Te^{4+}$ through liquid surfactant membrane using D2EHPA as the carrier 96 (1994) 233

**Temperature**
Investigation of the permselectivity of chitosan membrane used in pervaporation separation II. Influences of temperature and membrane thickness 98 (1995) 223

Performance of membrane separation bioreactor at various temperatures for domestic wastewater treatment 87 (1994) 119

**Ternary electrolyte mixtures**
Pressure-driven transport of ternary electrolyte solutions with a common coion through charged membranes. Numerical analysis 86 (1993) 19

**Terpolymer membranes**
Uphill and selective transport of anions through 2,3-epithiopropyl methacrylate–butyl methacrylate– methacryloyloxyethyltrimethylammonium chloride terpolymer membranes 92 (1994) 117

**Tetradentate oxoiminato Schiff bases**
Carrier-mediated transport through liquid membranes Studies on transport of nickel, cadmium and lead ions using tetradentate oxoiminato Schiff base ligands as carriers 93 (1994) 149

**Tetraethylorthosilicate**
Chemical vapor deposition of hydrogen-permselective silica films on porous glass supports from tetraethylorthosilicate 85 (1993) 279

**Tetraphenylporphinatomanganese(III) complex**
Selective uphill transport of cyanide ion mediated by tetraphenylporphinatomanganese(III) complex through bulk and polymer-supported liquid membranes 86 (1993) 155

**Theory**
Design methodology for a membrane/distillation column hybrid process 99 (1995) 259

**Thermal and hydrothermal stability**
A comparative study on thermal and hydrothermal stability of alumina, titania and zirconia membranes 91 (1994) 27

**Thermal gradient**
Carrier-mediated, thermal energy coupled, non-isothermal membrane transport Part 1. Transfer of the solute boric acid 93 (1994) 217

**Thermally-induced**
Microporous membrane formation via thermally-induced phase separation. VII. Effect of dilution, cooling rate, and nucleating agent addition on morphology 79 (1993) 27

**Thermally induced phase separation**
Coarsening effects on the formation of microporous membranes produced via thermally induced phase separation of polystyrene–cyclohexanol solutions 98 (1995) 209

**Thermal membrane potential**
Thermal membrane potential across anion-exchange membranes in KCl and $KIO_3$ solutions and the transported entropy of ions 82 (1993) 255

**Thermochemical water decomposition**
Separation of hydrogen from thermochemical processes using zirconia–silica composite membrane 97 (1994) 91

**Thermodialysis**
Effect of temperature gradients on the activity of enzymes immobilized on natural polymeric matrices 78 (1993) 69

**Thermodynamics**
Mixed gas sorption in elastic solids 96 (1994) 241

**Thermo-osmosis**
Solvent transport across anion-exchange membranes under a temperature difference and transported entropy of water 92 (1994) 85

**Thermoporometry**
A comparative study of techniques used for porous membrane characterization: pore characterization 87 (1994) 35

**Thermotreatment of anodic alumina**
New and modified anodic alumina membranes Part I. Thermotreatment of anodic alumina membranes 98 (1995) 131

**Thick-film**
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131

**Thickness**
Investigation of the permselectivity of chitosan membrane used in pervaporation separation II. Influences of temperature and membrane thickness 98 (1995) 223

**Thin-film composite membrane**
Isotopic fractionation and overall permeation of lithium by a thin-film composite polyamide reverse osmosis membrane 88 (1994) 231

**Thiosulfate**
Highly selective and efficient transport of mercury as $Hg(NO^2)^{2-}{}_4$ ion using $Ba^{2+}$–18-crown-6 as carrier 86 (1993) 29

**Three block copolymer membranes**
Membranes of block copolymer–poly(divinylbenzene) blends for the pervaporation of alcohol/water mixtures 90 (1994) 275

**Three-dimensional analysis**
Two- and three-dimensional analysis of diffusion through a dense membrane supported on a porous material 99 (1995) 175

**Time lags**
Dependence of the gas permeability of some polyimide isomers on their intrasegmental mobility 77 (1993) 41

**Tin salt catalyst**
Preparation and characterization of silicone membranes for supported liquid membrane applications 76 (1993) 157

**Toplayer**
Roles of bimolecular interaction and relative diffusion rate in membrane structure control 83 (1993) 153

**Track-etched membrane**
Porosity dependence of pore entry shape in track-etched membranes by image analysis 93 (1994) 79

**Track membranes**
Structure, physical and chemical properties and applications of nuclear filters as a new class of membranes 79 (1993) 285

**Transdermal delivery systems**
Temporally controlled transdermal systems: biphasic transdermal delivery of nitroglycerin 89 (1994) 245

**Transfer equation**
Mass transfer characterization in Donnan dialysis 84 (1993) 53

**Transfer mechanism**
Diffusion through polyethersulfone tubular UF membranes: an experimental approach 92 (1994) 141

**Transient increase of selectivity**
Separation of ethylene and ethane over polyphenyleneoxides membranes: transient increase of selectivity 82 (1993) 149

**Transmembrane pressure pulsing**
Analysis of steric hindrance reduction in pulsed protein ultrafiltration 85 (1993) 39

**Transport**
Electrochemically controlled transport of small charged organic molecules across conducting polymer membranes 100 (1995) 239

**Transport coefficients**
Diffusion dialysis Transport phenomena by irreversible thermodynamics 88 (1994) 167

**Transport competition**
Transport competition between monovalent and divalent cations through cation-exchange membranes. Exchange isotherms and kinetic concepts 96 (1994) 167

**Transported entropy**
Solvent transport across anion-exchange membranes under a temperature difference and transported entropy of water 92 (1994) 85

**Transport equation**
A simple predictive treatment of the permeation process in pervaporation 79 (1993) 101

Study of protein transmission through ultrafiltration membranes 85 (1993) 111

**Transport in membranes**
Application of network thermodynamics to the computer simulation of non-stationary ionic transport in membranes 90 (1994) 173

**Transport kinetics**
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

**Transport mode**
Transport mode of membrane distillation process and the VMD method to determine the membrane configurational number 97 (1994) 1

**Transport number**
Electrotransport of sulphuric acid in special anion exchange membranes for the recovery of acids 97 (1994) 99

**Transport of vanadium(V)**
Transport of vanadium(V) through a tricaprylylmethylammonium solid supported liquid membrane from aqueous acetic acid/acetate solutions 98 (1995) 241

**Transport parameter determination**
Manometric techniques for determination of gas transport parameters in membranes. Application to the study of dense and asymmetric poly(vinyltrimethylsilane) membranes 91 (1994) 65

**Transport phenomena**
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229

**Transport theory**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part II. Concentration polarization, coupled diffusion and the influence of the porous support layer 89 (1994) 153

**Transverse compression**
On the relation between compaction and mechanical properties for ultrafiltration hollow fibers 77 (1993) 123

**Triaryl cation**
Transport characteristics of the photo-driven active transport by triaryl cations across a liquid membrane 89 (1994) 101

**Tricaprylylmethylammonium chloride (Aliquat 336®)**
Transport of vanadium(V) through a tricaprylylmethylammonium solid supported liquid membrane from aqueous acetic acid/acetate solutions 98 (1995) 241

**Tri-isobutylphosphine sulfide**
Recovery of silver from nitrate solution by means of rotating film pertraction 86 (1993) 137

**Trypsin**
Fractionation of casein hydrolysates using polysulfone ultrafiltration hollow fiber membranes 80 (1993) 257

**Tubular filter press**
Criteria for selecting the operating regime of the crossflow microfilter or the tubular filter press for clarification of turbid waters 87 (1994) 57

**Tubular membranes**
Ultrafiltration membranes made of vinyl chloride–vinyl acetate copolymer 76 (1993) 269

**Tubular ultrafiltration membrane**
Diffusion through polyethersulfone tubular UF membranes: an experimental approach 92 (1994) 141

**Turbulence**
Turbulent transport in membrane modules by CFD simulation in two dimensions 100 (1995) 139

**Turbulence promotion**
Influence of shear rate on the flux during ultrafiltration of colloidal substances 79 (1993) 93

**Two-membrane reactor**
Applicability of two membranes for improving performance of a membrane reactor 96 (1994) 213

**Two-phase biocatalysis**
Aqueous–organic membrane bioreactors Part II. Breakthrough pressure measurement 97 (1994) 13

**Two-phase flow**
Gas–liquid two-phase cross-flow ultrafiltration of BSA and dextran solutions 90 (1994) 183

**Two-step**
Roles of bimolecular interaction and relative diffusion rate in membrane structure control 83 (1993) 153

**Two-step temperature jump**
Coarsening effects on the formation of microporous membranes produced via thermally induced phase separation of polystyrene–cyclohexanol solutions 98 (1995) 209

# U

**Ultracentrifugation**
Analysis of dead-end ultrafiltration based on ultracentrifugation method 81 (1993) 1

**Ultrafiltration**
Preparation of ultrafiltration membranes of HCEC and CTA blend, and studies of resistance to microbiological degradation and other properties 100 (1995) 217

**Ultrafiltration membranes**
Determination of pore size and pore size distribution 3. Filtration membranes 96 (1994) 131

**Ultrafiltration permeability**
Study of membrane compaction and its influence on ultrafiltration water permeability 100 (1995) 155

**Ultrafine particles**
Control of the pore characteristics of thin alumina membranes with ultrafine zirconia particles prepared by the reversed micelle method 85 (1993) 167

**Ultrapure water**

Removal of dissolved oxygen in ultrapure water production using microporous membrane modules 87 (1994) 99

**Unidirectional flux**
Electrotransport of HCl in anion exchange membranes for the recovery of acids. Part II. Kinetics of ion transfer at the membrane–solution interface 85 (1993) 195

**UNIQUAC theory**
A generalized solution–diffusion model of the pervaporation process through composite membranes Part I. Prediction of mixture solubilities in the dense active layer using the UNIQUAC model 89 (1994) 143

**Unsteady flow**
Use of intermittent jets to enhance flux in crossflow filtration 80 (1993) 117

**Unstirred batch cell**
Micellar ultrafiltration in an unstirred batch cell at constant flux 86 (1993) 241

**Unstirred layer**
Theoretical analysis of neutralization dialysis in the three-compartment membrane cell 98 (1995) 13

**Uphill transport**
Uphill and selective transport of anions through 2,3-epithiopropyl methacrylate–butyl methacrylate– methacryloyloxyethyltrimethylammonium chloride terpolymer membranes 92 (1994) 117

**Urea permeation**
Design of urea-permeable anion-exchange membrane by radiation-induced graft polymerization 81 (1993) 295

**Urease**
Comparison of potentiometric enzyme sensors for urea and penicillin-G: differential thick-film sensors versus classical electrodes 100 (1995) 131

**Urea transport**
Urea transport through supported liquid membranes using synthetic carriers 82 (1993) 277

**UV irradiation**
Effect of photocrosslinking on permeability and permselectivity of gases through benzophenone-containing polyimide 87 (1994) 139

# V

**Vacuum membrane distillation**
Extraction of organic components from aqueous streams by vacuum membrane distillation 80 (1993) 21

**Vanadium**
Characterisation of novel composite membrane for redox flow battery applications 98 (1995) 77

**Vapor–liquid equilibrium**
A simple predictive treatment of the permeation process in pervaporation 79 (1993) 101

**Vapor permeation**
Sorption, diffusion and vapor permeation of various penetrants through dense poly(dimethylsiloxane) membranes: a transport analysis 92 (1994) 169

**Velocity distribution**
Distribution of electrodialytic condition in an electrodialyzer and limiting current density 92 (1994) 217

**Vesicles**
Extraction of $Cd^{2+}$ and $Pb^{2+}$ from dilute aqueous solution using metal-sorbing vesicles in a hollow-fiber cartridge 84 (1993) 107

**Vibro Mixer**
Continuous extraction of penicillin G with liquid surfactant membrane using Vibro Mixer 93 (1994) 61

**Vinyl chloride–vinyl acetate copolymer membranes**
Ultrafiltration membranes made of vinyl chloride–vinyl acetate copolymer 76 (1993) 269

**Virtual displacement**
Thermostatics of membrane equilibria 89 (1994) 279

**Viruses**
Structure, physical and chemical properties and applications of nuclear filters as a new class of membranes 79 (1993) 285

**Viscoelastic behavior**
On the relation between compaction and mechanical properties for ultrafiltration hollow fibers 77 (1993) 123

**Viscosity correction**
Ideal limiting fluxes in ultrafiltration: comparison of various theoretical relationships 80 (1993) 107

**Viscosity of casting solution**
Influence of casting solution additive, degree of polymerization, and polymer concentration on poly(vinyl chloride) membrane properties and performance 83 (1993) 199

**Vitamin $B_{12}$**
An improvement on the method of determining the solute permeability of hollow-fiber dialysis membranes photometrically using optical fibers and comparison of the method with ordinary techniques 88 (1994) 159

**Volatile organic compounds**
Optimization of multicomponent pervaporation for removal of volatile organic compounds from water 97 (1994) 109

**Volatile organics**
Extraction of organic components from aqueous streams by vacuum membrane distillation 80 (1993) 21

**Volume flux**
Solvent transport across anion-exchange membranes under a temperature difference and transported entropy of water 92 (1994) 85

**Vortex flow configurations**
Modelling of protein transmission through ultrafiltration membranes 97 (1994) 83

**Vortex flow filtration unit**
Study of protein transmission through ultrafiltration membranes 85 (1993) 111

**Vortex wave**
Enhancement of plasma filtration using the concept of the vortex wave 100 (1995) 121

**Vortices**
Dean vortices with wall flux in a curved channel membrane system. 6. Two dimensional magnetic resonance imaging of the velocity field in a curved impermeable slit 81 (1993) 151

# W

**W/O/W double emulsions**
Application of batch ultrafiltration to the separation of W/O emulsions in liquid surfactant membrane processes 96 (1994) 193

**Waste water**
Removal of heavy metals and suspended solids from wastewater from wet lime(stone)–gypsum flue gas desulphurization plants by means of hydrophobic and hydrophilic crossflow microfiltration membranes 87 (1994) 191

**Waste waters**
Kinetics of coupled transport of Cu(II) ions through liquid membranes composed of technical solvents and paraffin mixtures 92 (1994) 267

**Wastewater treatment**
Modeling of multicomponent pervaporation for removal of volatile organic compounds from water 93 (1994) 1

**Water**
Zeolite-filled silicone rubber membranes Experimental determination of concentration profiles 89 (1994) 185

**Water/ethanol separation**
Preparation of asymmetric polyimide membrane for water/ethanol separation in pervaporation by the phase inversion process 86 (1993) 231

**Water/organic mixtures**
Anomalous sorption and pervaporation of aqueous organic mixtures by poly(vinyl acetal) membranes 95 (1994) 207

**Water activity**
On-line water removal during enzymatic triacylglycerol synthesis by means of pervaporation 80 (1993) 199

**Water flow**
A mechanism for water flow in bipolar membranes 82 (1993) 65

**Water permeable membranes**
Pervaporation of aqueous acetic acid mixture through poly(acrylic acid-co-acrylonitrile) membranes 82 (1993) 157

**Water purification**
Criteria for selecting the operating regime of the crossflow microfilter or the tubular filter press for clarification of turbid waters 87 (1994) 57

**Water dissociation**
Desorption of counter-ions followed with labelled ions and water dissociation in perfluorinated quaternary ammonium membranes and Nafion 125 membranes 84 (1993) 213

**Water sorption and diffusion**
Water transport across polystyrenesulfonate/alumina composite membranes 99 (1995) 185

**Water-splitting**
Co-ion leakage through bipolar membranes Influence on *I–V* responses and water-splitting efficiency 90 (1994) 283

**Water transport**
Water transport across polystyrenesulfonate/alumina composite membranes 99 (1995) 185

**Water transport number**
Water electrotransport in membrane systems. Experiment and model description 86 (1993) 207

**Water treatment**
Selective extraction of $Pb^{2+}$ by metal-sorbing vesicles bearing ionophores of a new class 99 (1995) 49

**Water vapor permeability**
Water vapor permeability and diffusivity through methylcellulose edible films 91 (1994) 125

**Water vapour**
A model of water vapour transmission in hydrocolloid wound dressings 97 (1994) 27

**Weak acid groups**
The effect of the pH on electrolyte transport through microporous membranes bearing either weakly or strongly dissociating acid groups. A theoretical analysis using the space-charge model for a cylindrical capillary 99 (1995) 285

**Wet phase inversion**
Polycarbonate membrane prepared via a wet phase inversion method for oxygen enrichment from air 86 (1993) 103

**Wetting**

Novel techniques for oil/water separation 99 (1995) 197

**Whey**
Fouling during constant flux crossflow microfiltration of pretreated whey. Influence of transmembrane pressure gradient 80 (1993) 131

**Whey protein**
Effects of pH and ionic environment on the permeability and rejective properties of an alumina microfiltration membrane for whey proteins 95 (1994) 125

**Wine clarification**
Energy saving pulsatile mode cross flow filtration 86 (1993) 281

**Wound dressing**
A model of water vapour transmission in hydrocolloid wound dressings 97 (1994) 27

# X

**X-ray photoelectron spectroscopy**
Adsorption of aquatic humic substances on hydrophobic ultrafiltration membranes 97 (1994) 37

Surface fluorination of poly(phenylene oxide) composite membranes Part II. Characterization of the fluorinated layer 90 (1994) 37

# Y

**Yeast alcohol dehydrogenase**
Microfiltration of protein solutions at thin film composite membranes 80 (1993) 165

**Yeast cell harvesting**
Yeast cell microfiltration: Flux enhancement in baffled and pulsatile flow systems 80 (1993) 59

**Yeast cells**
Shear-induced particle diffusivity during crossflow microfiltration of *Saccharomyces cerevisiae* in a radial flow filtration chamber 95 (1994) 229

**Yeast suspensions**
Critical flux concept for microfiltration fouling 100 (1995) 259

# Z

**Zeolite**
Gas permeation characteristics of polymer–zeolite mixed matrix membranes 91 (1994) 77

**Zeolite filled membrane**
Adsorbent filled membranes for gas separation. Part 1. Improvement of the gas separation properties of polymeric membranes by incorporation of microporous adsorbents 80 (1993) 189

**Zeolite membrane**
Ceramic-zeolite composite membranes and their application for separation of vapor/gas mixtures 90 (1994) 1

Ceramic zeolite composite membranes. Preparation, characterization and gas permeation 82 (1993) 15

**Zeta potential**
Calculation of limiting fluxes in the ultrafiltration of colloids and fine particulates 99 (1995) 229

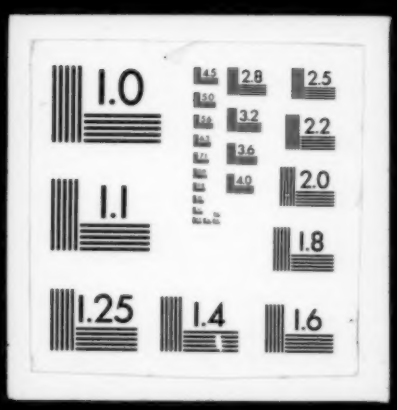
**Zinc**
Removal of copper and zinc from aqueous sulfate solution with polyacrylic acid by a batch complexation–ultrafiltration process 82 (1993) 175

**Zinc recovery**
Recovery of zinc from an industrial effluent by emulsion liquid membranes 84 (1993) 201

**Zirconia**
A microporous zirconia membrane prepared by the sol–gel process from zirconyl oxalate 86 (1993) 95

**Zirconia–silica**
Separation of hydrogen from thermochemical processes using zirconia–silica composite membrane 97 (1994) 91

**Zirconium phosphate membranes**
Membrane potential and solute separation studies on zirconium phosphate membranes 82 (1993) 141


1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8